TURUN YLIOPISTO
ELÄINMUSEO

The Spiders of New Zealand

PART V

CYCLOCTENIDAE, GNAPHOSIDAE, CLUBIONIDAE.

by R. R. Forster

LINYPHIIDAE—MYNOGLENINAE.

by A. D. Blest

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INTRODUCTION

The first three families covered in the present volume Cycloctenidae, Gnaphosidae and Clubionidae follow the sequence from Part 4 in that I have earlier suggested that the Cycloctenidae should be placed in the Amaurobioidea. The Clubionidae and Gnaphosidae are usually closely associated and I have included both families here. The treatment of the Linyphiidae-Mynogleninae by A. D. Blest is included at this stage in view of the contribution a detailed study of this group will provide towards the understanding of the phylogeny of the Linyphiidae. It is probable that a similar treatment of the New Zealand Linyphiinae will not appear for some time.

While the Cycloctenidae and Mynogleninae are represented in New Zealand by a strong endemic fauna the Clubionidae and Gnaphosidae are very weakly represented and many of the species which do occur are introduced. It is suspected that some of the Clubionids and Gnaphosids which have been recorded below as endemic may in fact be introduced species.

TRICHOBOTHRIA

The wider availability of SEM facilities in recent years has permitted examination of the fine structure of trichobothria and more particularly the basal socket or bothrium. These characters have been considered in discussions on phylogeny of a number of groups of spiders (Platnick 1975, Lehtinen 1976).

Platnick (1976) established that the bothria of *Liphistius* and *Heptathele* differed from all other spiders in possessing two apposed crescent plates. Only a single plate or no plate at all was found in the mygalomorphs and araneomorphs examined. I have illustrated a selection of bothria typical of the genera included in the present volume, all of which have a single crescent plate or vestiges of it. From the wide range of forms now recorded it would appear that the structure of the bothrium is conservative and relatively similar amongst related genera. These organs would undoubtedly be of value in the clarification of the phylogeny of some araneomorph groupings if it could be established which sets of characters are derived. From the examination of New Zealand forms it appears that the smooth dome-like structure found in some theridiids represent a regression from a single plate bothrium and in the linyphiids (Figs. 27-29) where the bothria are also smooth the plate appears to be undergoing regression. In the Micryphantinae it is reduced to little more than the lateral lobes. In contrast the smooth form found in some mygalomorph spiders shows no signs of having been derived from the ridged forms which are also found in some mygalomorphs.

In the Clubionidae and Gnaphosidae the plate is well developed and transversely ridged (Figs. 10. 21). This form is also found in the Miturgidae. The Cycloctenidae have the plate strongly developed but the ridges are finer and longitudinal (Figs. 1-4). This form is characteristic of most of the families covered in previous volumes under the Dictynoidea and Amaurobioidea. It is also characteristic of the Lycosoidea.

TARSAL ORGAN

It is evident that the tarsal organ when more widely recorded will provide useful taxonomic information and particularly so within many of the haplogyne groups. In most of these spiders the receptors and associated structures are exposed and easily seen. The tarsal organs of most of the entelegyne spiders, and also some haplogyne groups are characterised by a cuticular outgrowth which encloses the receptors within a hollow dome leaving only a slit or round opening to permit gas exchange. In these spiders the receptors are only rarely visible with SEM examination and the pictures record only the surface morphology of the enclosing cup.

A fairly clear picture of the evolution of this organ can be pieced together from a study of recent spiders and a paper is at present under preparation which will present this aspect in some detail.

Here I have illustrated the tarsal organs characteristic of the New Zealand representatives of the families covered in this volume. The Linyphiidae all seem to possess a smooth, even dome with a circular apical aperture (Fig. 30). The form of the tarsal organ in this family is similar to that of the Theridiidae and as in that family there is a tendency for the organ to move back from the primitive position at the end of the tarsus above the claws to the proximal region of the segment.

In the Cycloctenidae the tarsal organ is distal and often irregularly shaped. The aperture is elongate and directed towards the end of the tarsus (Figs. 5, 7-9).

The few clubionids which I have examined show a considerable range of forms but generally the opening is distal and oval in outline and often there is a trace of a slit extending back from the aperture. The slit form is shown clearly in *Clubiona huttoni* (Fig. 22) while this is reduced in *Clubiona cambridgei* (Fig. 26). In *Supunna* (Fig. 24) there is an oval aperture without any trace of a slit extending from the opening. *Miturga* possesses the slit form of tarsal organ with the receptors exposed at the distal aperture.

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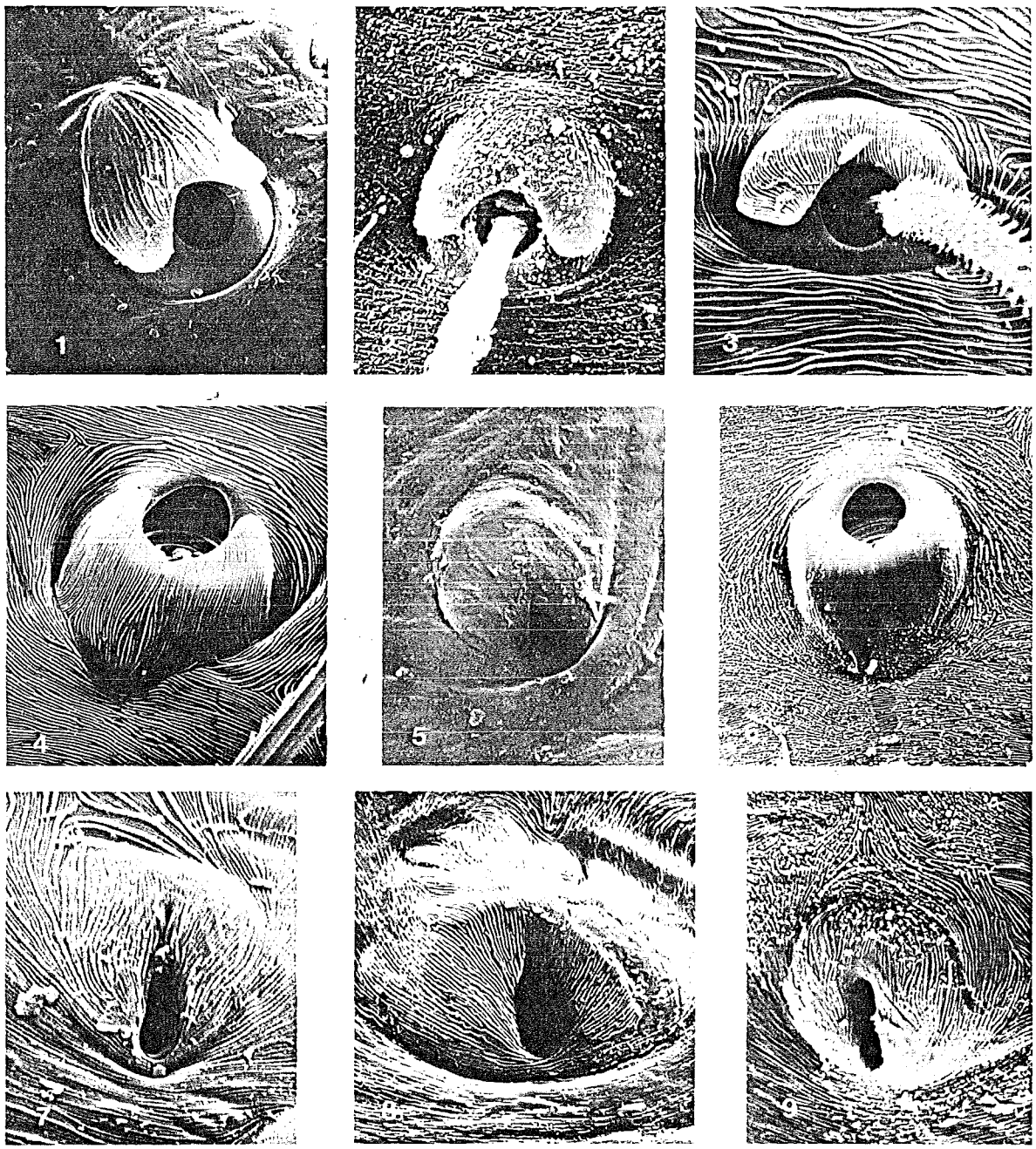
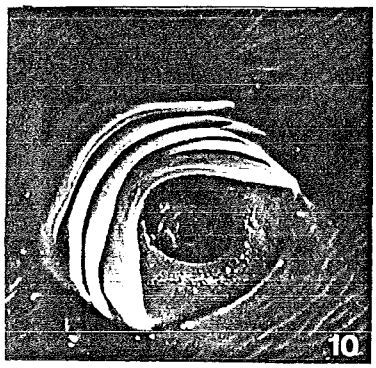
Family CYCLOCTENIDAE Simon 1898

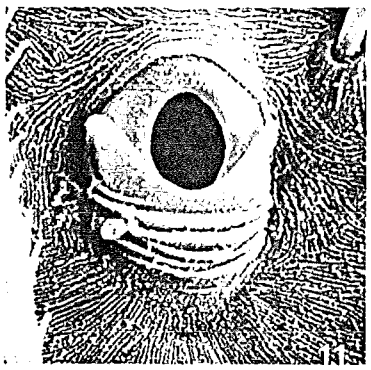
Cyclocteneae Simon 1898. Hist. Nat. Araign. 2(2):320.
Cyclocteninae Petrunkevitch 1923. Ann. N.Y. Acad. Sc. 29:180. Petrunkevitch 1928. Trans. Connect. Acad. Arts Sc. 29:41,107. Petrunkevitch 1939. Trans. Connect. Acad. Arts Sc. 33:167. Gerhardt and Kaestner 1938. Handbuch der Zoologie 3(2):622.
Cyclocteninae Lehtinen 1967. Ann. Zool. Fenn. 4:374.

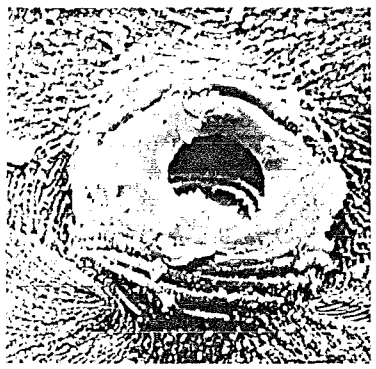
As the name suggests Koch placed the type genus *Cycloctenus* in the Ctenidae. Simon (1898) transferred *Cycloctenus* along with *Galliena* as a separate group Cyclocteneae in the Lycosidae characterised

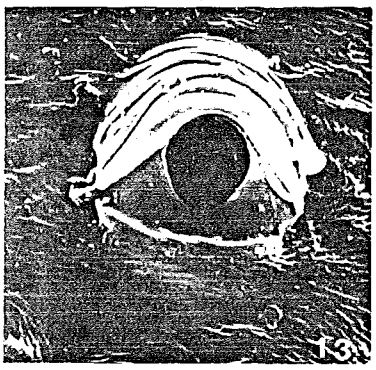


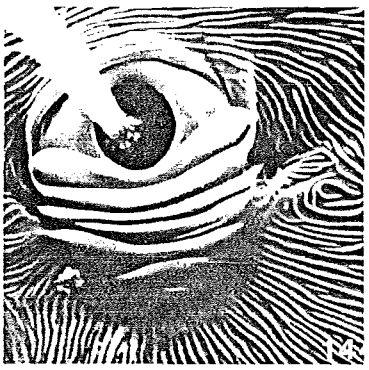
Figs. 1-4 Bothria Fig. 1 *Plectophanes* sp. Balclutha Fig. 2 *Anaua unica* Fig. 3 *Cycloctenus flaviceps* Fig. 4 *Toxopsiella lawrencei* Fig. 5 Tarsal organ *Plectophanes* sp. Balclutha Fig. 6 Bothrium *Cycloctenus fugax* Figs. 7-9 Tarsal organs Fig. 7 *Toxopsiella lawrencei* Fig. 8 *Cycloctenus fiordensis* Fig. 9 *Cycloctenus fugax* Scanning Electron micrographs.

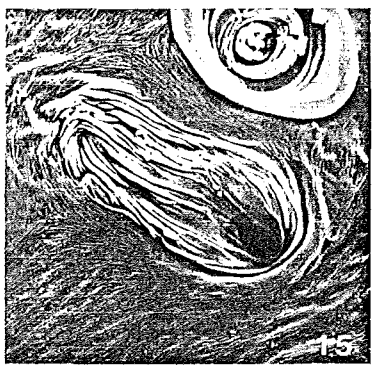


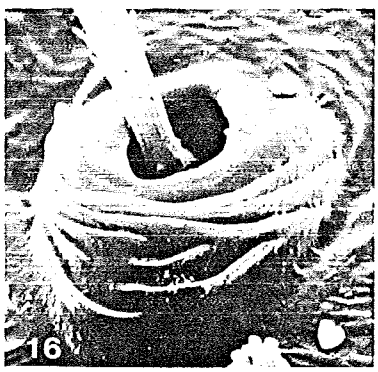


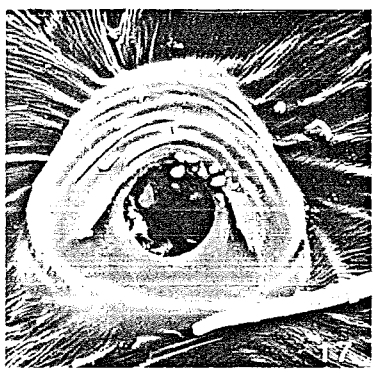


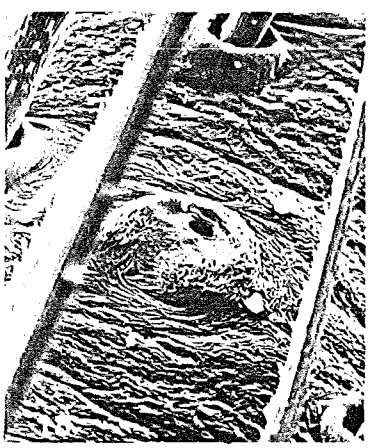


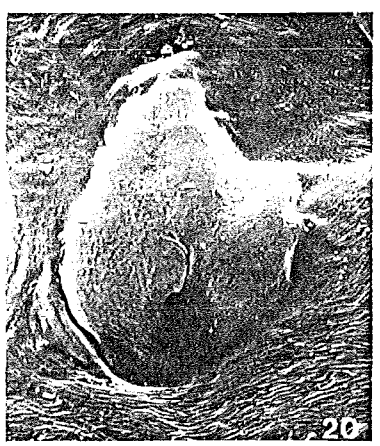












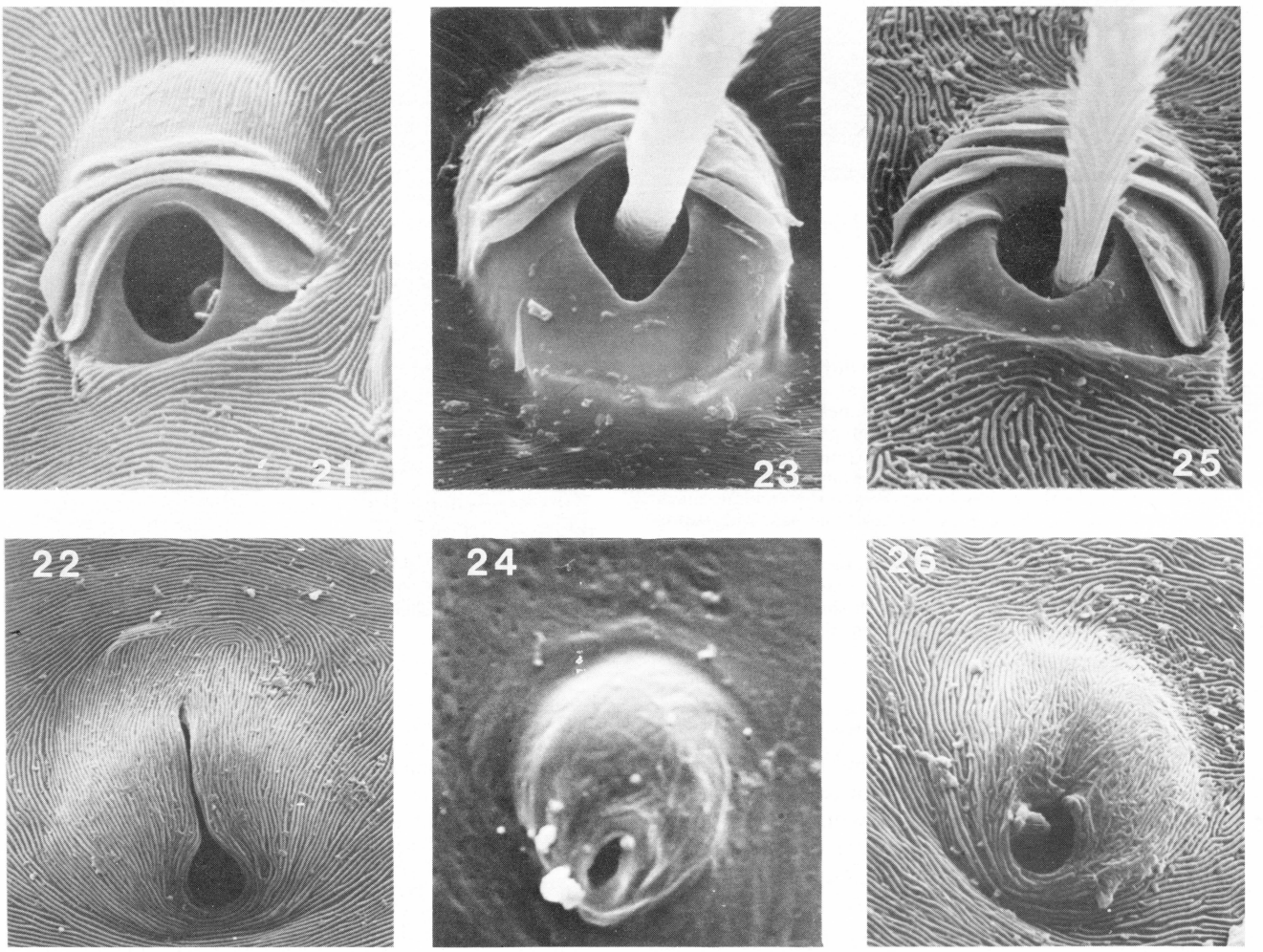
Figs. 10-14 Bothria Fig. 10 *Anzacia gemmea* Fig. 11 *Hypodrassodes maoricus* Fig. 12 *Lampona cylindrata* Fig. 13 *Scotophaeus pretiosus* Fig. 14 *Taieria erebus* Fig. 15 Tarsal organ *Lampona cylindrata* Figs. 16-17 Bothria Fig. 16 *Notiodrassus distinctus* Fig. 17 *Hemicloea rogenhoferi* Figs. 18-20 Tarsal organs Fig. 18 *Notiodrassus distinctus* Fig. 19 *Matua valida* Fig. 20 *Hemicloea rogenhoferi* Scanning Electron micrographs.

by the ctenid like arrangement of the eyes. The presence of three claws and the absence of claw tufts and scopula has generally dissuaded placement in the Ctenidae. Recently Homann (1971) discussed his findings on the form of tapeta and structure of the retina of the secondary eyes of three of the genera placed here in the Cycloctenidae, *Cycloctenus*, *Toxopsiella* and *Plectophanes*. He concluded that the eye structure of *Cycloctenus* showed structural similarities with the Selenopidae, *Toxopsiella* (the species examined was *T. lawrencei*) with *Dinopis* and that *Plectophanes* was quite different from the other two genera. An appraisal of all characters suggests that *Cycloctenus* and *Toxopsiella* are indeed very closely related while it must be accepted that the inclusion of *Plectophanes* is doubtful.

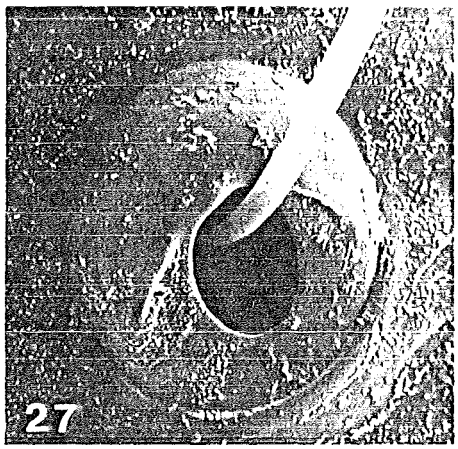
The structure of the eyes may at times be an excellent character, but it does appear that as with other characters the absence of precise knowledge of the plasticity of the structures and more particularly the functional parameters embodied in the various forms provides only limited phylogenetic information.

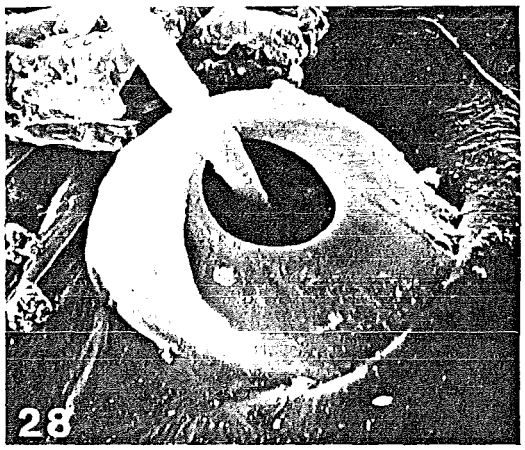
Lehtinen (1967) first raised the status of the group to familial level within his Lycosoidea. This decision he based on *Cycloctenus* alone while suggesting that *Toxopsiella* and *Galliena* in association with *Anoteropsis* represented a derivative group of either the Cycloctenidae or Lycosidae but did not belong in either family. While Lehtinen may have been confused at that time by the inclusion in *Toxopsiella* of the dictynoid species now transferred to *Hapona*, the type species of this genus and the other species described below are undoubtedly closely related to *Cycloctenus*. The type species of *Anoteropsis* is by contrast a typical lycosid, one of a group which inhabit the riverbeds of the South Island, New Zealand. I have not been able to examine *Galliena* but the description would suggest relationship with *Toxopsiella* which is also represented in Australia.

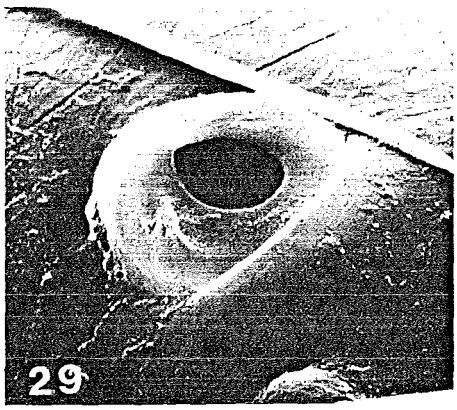
The inclusion of *Plectophanes* in the family can only be regarded as tentative but the suggestion made by Lehtinen that the genus could be associated with the haplogyne genus *Zearchaea* is untenable.



Figs. 21-22 *Clubiona huttoni* Fig. 21 Bothrium Fig. 23 *Chiracanthium stratioticum* bothrium Fig. 24 *Supunna picta* tarsal organ Figs. 25-26 *Clubiona cambridgei* Fig. 25 Bothrium Fig. 26 Tarsal organ. Scanning Electron micrographs.







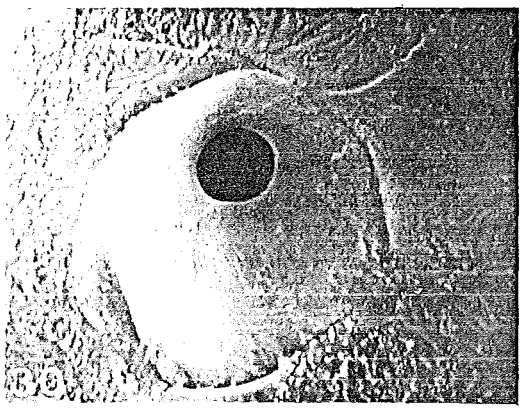


Fig. 27 *Mynoglenes* sp. Bothrium Fig. 28 *Leptyphantes tenuis* bothrium Figs. 29-30 *Diplocephalus cristatus* Fig. 29 Bothrium Fig. 30 Tarsal organ Scanning Electron micrographs.

Medium to large hunting spiders with three claws, no scopula or claw tufts. Trochanteral notch absent. Trichobothria in a double row on tibia and single row on metatarsus and tarsus. Tarsal organ with distal oval or slit opening (Figs. 8, 9). Bothria without transverse ridges (Figs. 3, 6). No plumose hairs. Double row of spines on ventral surfaces of tibia and metatarsus. Eight eyes in two strongly recurved rows. Posterior eyes large, much larger than anterior eyes (Figs. 31, 32). Male palp with strong tibial processes. Bulb with strong embolus, well developed median apophysis and usually a membraneous conductor (not present in *Plectophanes*). Female internal genitalia simple, usually a pair of large receptacula with short ducts. Tracheal system simple with four unbranched tracheal tubes limited to the abdomen.

Type genus *Cycloctenus* L. Koch 1878

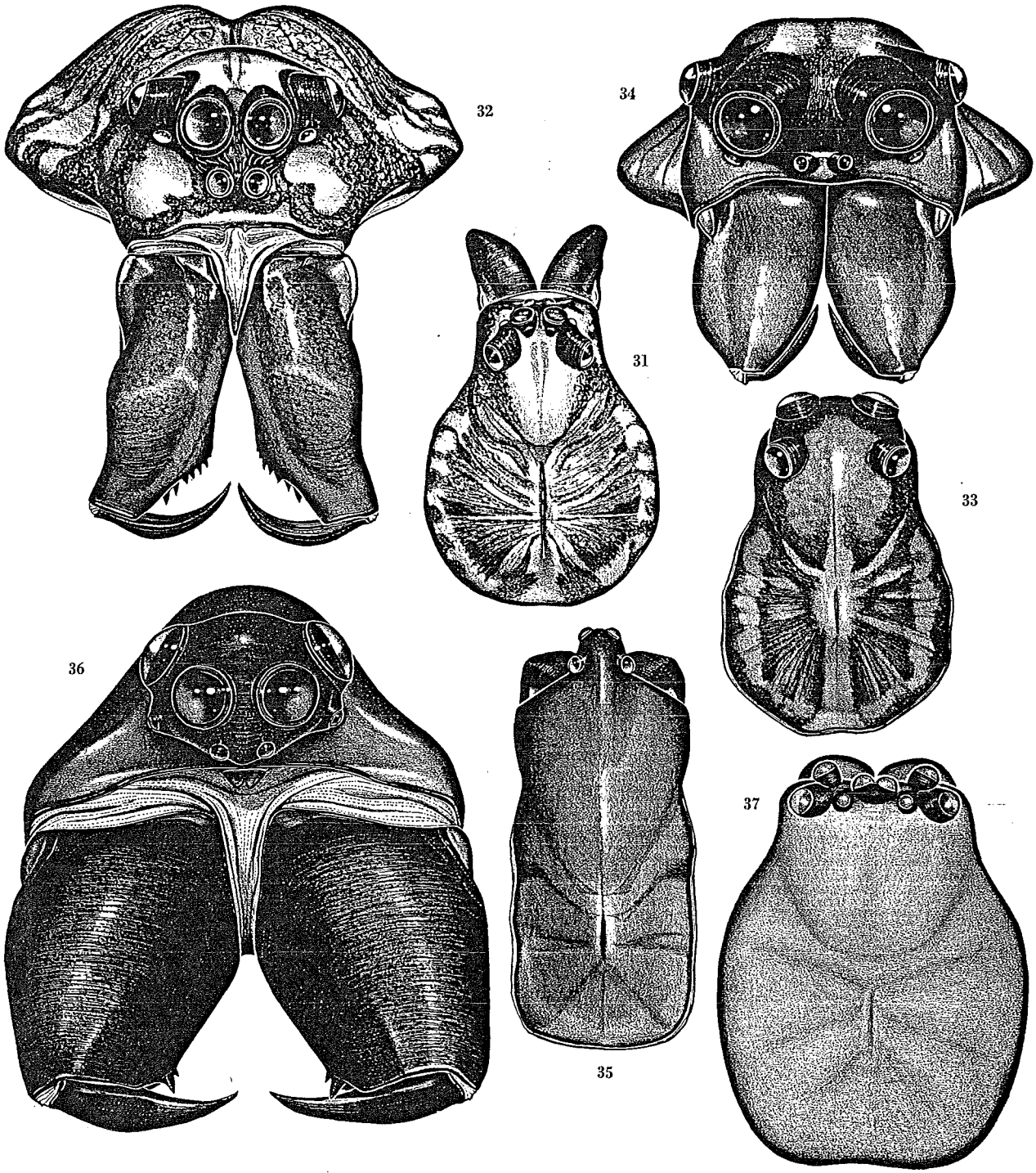
The three genera recorded from New Zealand are all hunting spiders which do not construct snares. *Cycloctenus* and *Toxopsiella* rely on direct hunting while *Plectophanes* use a tunnel in a twig as a retreat and capture suitable prey as it approaches the opening.

Cycloctenus and *Toxopsiella* both construct ctenid like eggsacs – low plano-convex structures which are placed on the undersurfaces of stones or debris where they live (Fig. 39). The eggsacs do not appear to be guarded but abandoned after completion. The young emerge from a small round hole near the margin of the sac. The eggsac of *Plectophanes* as might be expected is constructed within the burrow and is spherical, loosely enclosed in silk. The statement made by Lehtinen (1967:374) that the relationship of *Cycloctenus* to the Lycosids is supported by the lycosid method of cocoon carrying is quite erroneous and I have not been able to trace the source of this information.

Cycloctenus L. Koch 1878

Koch L 1878. Die Arachn. Austr. p. 988. Pickard-Cambridge 1897. Ann. Mag. Nat. Hist. 19: 88,92. Simon 1898. Hist. Nat. Araign. 2(2) : 299. Petrunkevitch 1928. Tran. Connect. Acad. Arts Sc. 29:107. Lehtinen 1967. Ann. Zool. Fenn. 4:227.

Relatively large laterigrade spiders. Thoracic region markedly wider than the head. Fovea distinct with margins raised. Carapace not greatly longer than wide. Eight eyes in two strongly recurved rows. ALE level with PME (Figs. 31, 32). Chelicerae vertical with strong lateral boss. Two teeth on promargin, five on retromargin, three of which are reduced in size in the Australian species examined. Sternum scutiform, as wide or wider than long. Labium as wide as long. Legs strongly spined with double row of spines on ventral surface of the tibia and metatarsus of all legs. Tibiae and metatarsi with a double row and tarsi with a single row of trichobothria. Bothria as in Fig. 3 without transverse ridges.



Figs. 31-32 *Cycloctenus westlandicus* Fig. 31 Dorsal view of carapace Fig. 32 Front view of head showing eyes Figs. 33-34 *Toxopsiella lawrencei* Fig. 333 Dorsal view of carapace. Fig. 34 Front view of head Figs. 35-36 *Plectophanes frontalis* Fig. 35 Dorsal view of carapace. Fig. 36 Front view of head showing eyes and chelicerae Fig. 37 *Anaua unica* dorsal view of carapace.

Three claws. Superior claws similar, with a single row of 7-8 teeth. Inferior claw usually with a single tooth. Female palp with a well developed toothed claw. Tarsal organ as in Figs. 8, 9 with an elongate posteriorly situated opening. Male palp with a strong double process on the tibia (Figs. 48, 52). Short, stout embolus, membraneous conductor and well developed median apophysis (Figs. 49, 50). Sometimes with a tegular spine (Fig. 71). Epigynum with a posterior plate (conspicuous in New Zealand species) and usually a median ridge. Internal genitalia two spherical receptacula with short ducts leading to epigynal openings.

Type species Cycloctenus flaviceps L. Koch. Australia.

The genus has been long known from both New Zealand and Australia. The New Zealand species form a homogeneous group separated from each other mainly by the form of the male and female genitalia. The Australian species are not well known and apart from the type species *flaviceps* only two

further species have been recorded, one by Urquhart from the Jenolan Caves (*abyssinus*) and the other by Rainbow from Lord Howe Island (*vittatus*). There are numerous undescribed Australian species. I have figured the epigyna of the two species known from Australia and some of undescribed species to indicate the range of these structures. The male palp of an undescribed species from Wyandbene Cave is also illustrated to show the different form of median apophysis found in some Australian species.

Because earlier authors have considered that Urquhart's species were synonymous with the Australian *flaviceps* this species has been recorded from both countries.

Cycloctenus westlandicus Forster

Cycloctenus westlandicus Forster 1964. Ann. Natal Mus. 16:149. Figs. 31-32, 38, 50-54

FEMALE

Measurements

Carapace length 5.9 width 5.2
Abdomen length 7.6 width 5.3

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	5.7	2.6	5.7	5.9	2.4	22.3
2	5.3	2.6	5.6	6.3	2.5	22.3
3	4.9	2.4	4.9	6.6	2.4	21.2
4	5.3	2.4	4.9	6.9	2.6	22.1
Palp	2.8	1.0	1.6		2.5	7.9

Colour Cephalothorax pale yellow-brown with dark shading within the lateral margins. Abdomen yellow brown with darker markings on the dorsal surface as shown in Fig. 38.

Carapace Figs. 31-32. Head region clearly defined, higher than thorax. Fovea deep, surface of thorax raised and rounded on each side of fovea. Thoracic region wider than head region in ratio of 11:6.

Eyes (Figs. 31-32). Ratio of AME.ALE.PME.PLE. = 4.4.8.8. AME separated from PME by 6/4 and from each other by 4/4 of the diameter of an AME. ALE separated from both PME and

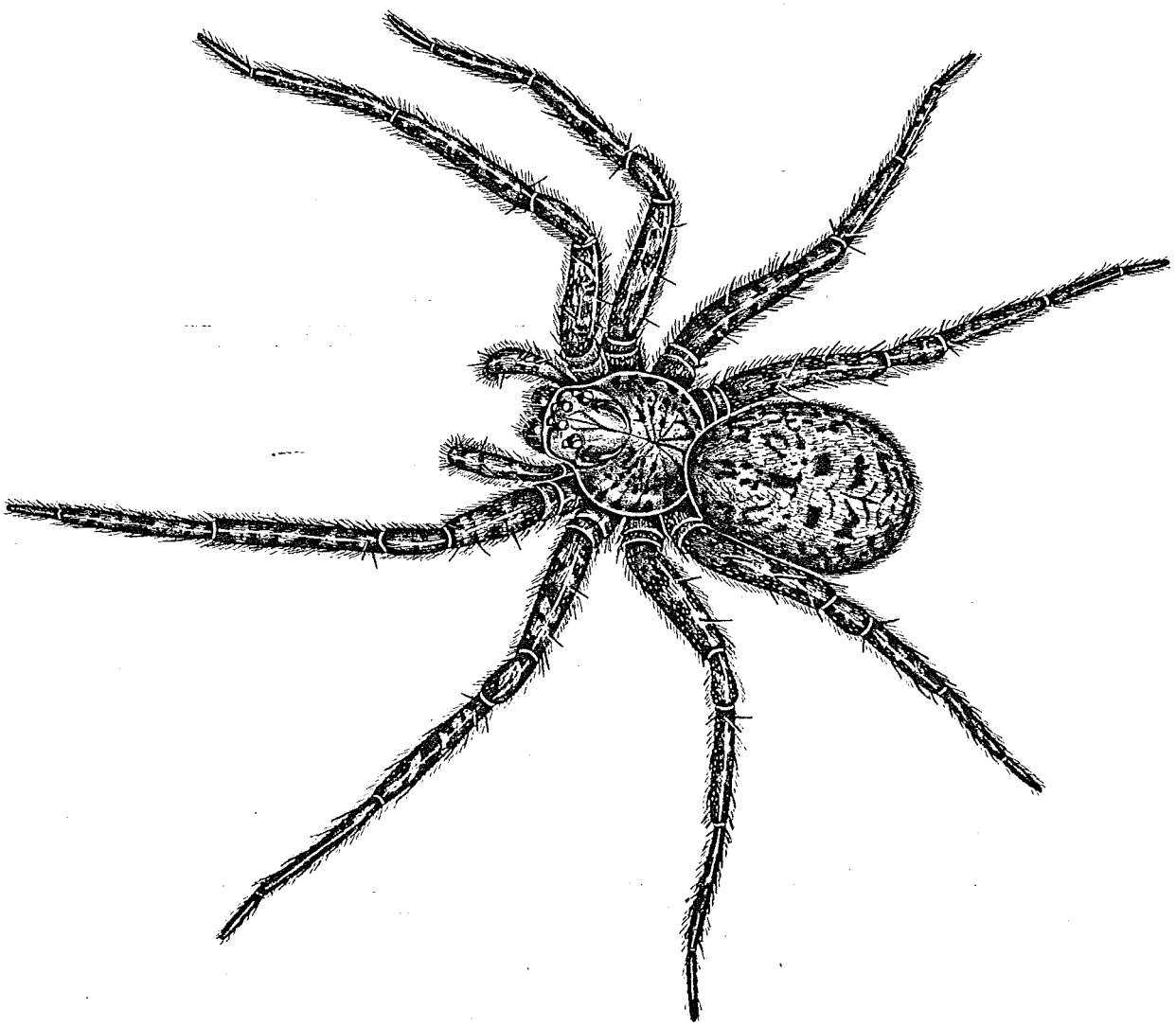


Fig. 38. *Cycloctenus westlandicus* female.

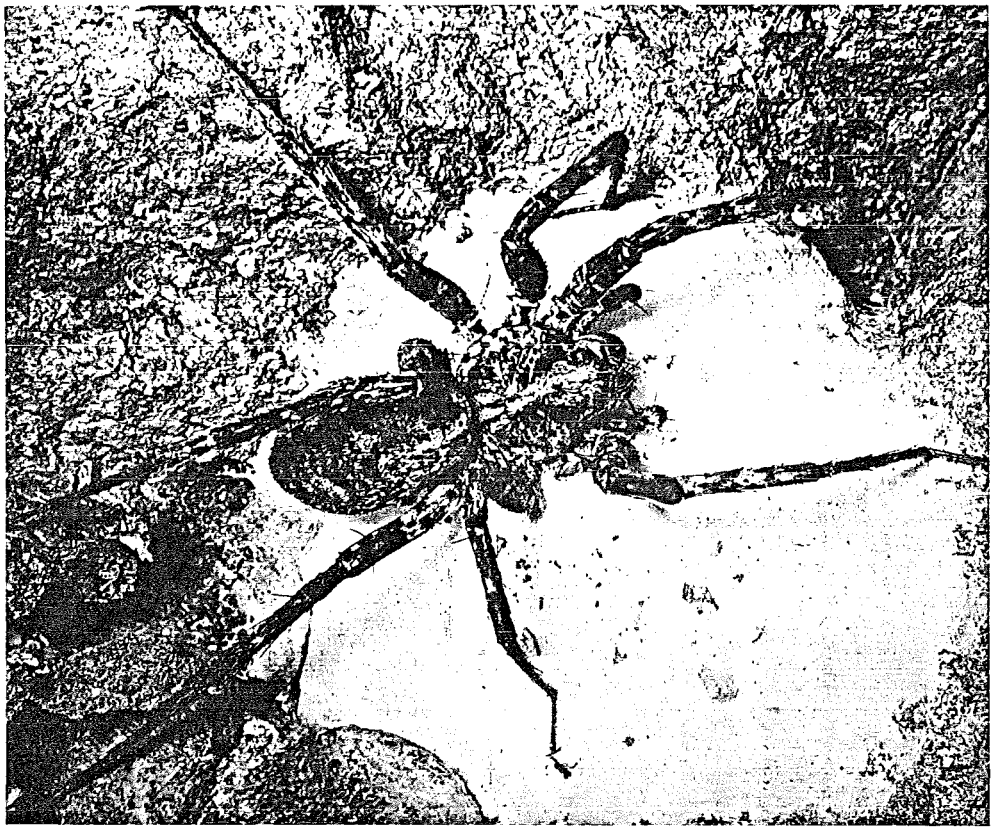


Fig. 39. *Cycloctenus fugax* with eggsac. This eggsac was constructed on the under side of loose bark. Photographed prior to laying down the final covering of darker silk which often has debris incorporated in it.

PLE by 3/4. PME separated from each other by 6/4 and from PLE by 9/4. PLE separated from each other by 30/4 of the diameter of an AME. MOQ wider behind than in front in ratio of 38:20 and longer than wide in front in ratio of 25:20. Height of clypeus slightly more than twice width of AME.

Chelicerae Strong, vertical, with well developed lateral boss. Two strong teeth on promargin, five teeth on retromargin of which the proximal two are small.

Maxillae Converging slightly over the labium. Widest distally where the width is one half of length.

Labium Longer than wide in ratio 8:7.

Sternum Scutiform, wider than long in ratio of 7:6. Terminating sharply behind between coxae 4.

Legs Spines. Legs 1,2 tibia v.2.2.2.2.2, metatarsus v.2.2.2, trichobothria. Leg 1 Metatarsus 2.2.2.1, tarsus 1.1.1.1.1.1.1. Leg 2 Tibia 1.1 proximal, metatarsus 1.1.2. Leg 3 metatarsus 1.2.1.2.1. Leg 4 tibia 1.1, metatarsus 1.1.1.1.1, tarsus 1.1.1.1.1.1.1.1. Superior claws similar, with 7 teeth. Inferior claw with one small proximal tooth.

Palp Tibia with 1.1 trichobothria on the proximo-dorsal surface of tibia. Tarsal claw with 3 teeth.

Abdomen Colulus distinct. Epigynum as in Fig. 53. Internal genitalia consisting of a single pair of rounded spermathecae with short ducts.

MALE

Measurements

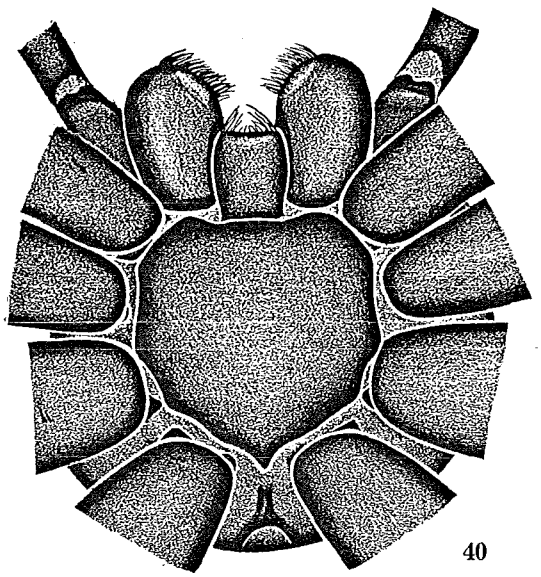
Carapace	length 5.9	width 4.6
Abdomen	length 5.9	width 3.8

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	4.6	1.7	5.9	6.4	2.6	21.2
2	4.6	1.7	5.7	6.4	2.5	20.9
3	4.6	2.0	4.0	6.6	2.5	19.7
4	4.5	2.1	6.0	6.6	3.2	22.4
Palp	2.0	0.8	0.8		2.0	5.6

Palp as in Figs. 50, 53. Median apophysis as in Fig. 52.

Types Holotype male, allotype female. Westland, Fox Glacier, September 1, 1951, M. Warren (Otago Museum).

Records South Island: Shenandoah Saddle, Murchison, 13.v.63, P. M. Johns. Punakaiki, 28.ix.66, R.R.F. Rough River, Ikamatua, 4.iv.56, R. D. Jackson. Westland. Buller Gorge, in bush, 14.viii.63. North of Reefton, Landing bridge, 30.x.59. Pukekura, viii.52, M. Warren. 18 km from Greymouth, 20.i.50, R.R.F. Roto Hut, 10.xii.56, L. R. Jackson. Wataroa, viii.52, M. Warren. Fox Cave, 20.vi.56. Woodpecker Bay, 22.i.50, R.R.F. Birchfield, 12.xii.49, R. J. Scarlett. Okarito, 10.xii.49, R.R.F. Otira, iii.55, T. D. Harris. Kellys Range, Otira, under stones, 26.i.56, R.R.F. Moana, 17.v.53, i.54, C. Sinclair. Franz Josef, 29.iv.51, 24.i.71, R.R.F. Fox Glacier, xii.60, P. R. Kettle. Fox Glacier, 1.ix.51, M. Warren. Paringa, 26.ix.66, R.R.F. Lake Moeraki, in rotten wood, 22.xi.68. Westland. Jacksons Bay, in bush, 15.iii.66, 16.iii.66, R.R.F. Canterbury. Okuku Pass, under stone in creek, 21.v.56, R.R.F. Lake



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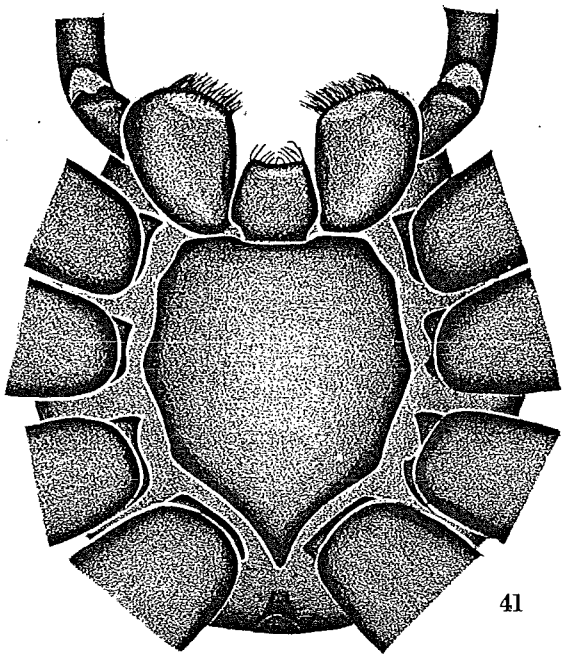


41

Figs. 40-41 Sternum, maxillae and labium. Fig. 40 *Cycloctenus fugax*. Fig. 41 *Toxopsiella lawrencei*.

Taylor, 14.iv.52. Fiordland. Martins Bay, under logs, 25.i.55, 27.i.55, 31.v.55, R.R.F., J. S. Dugdale. Martins Bay, under logs, 28.i.55, R.R.F. Haast, night collecting, 15.iii.66, R.R.F. Haast Pass, 556m, 16.iii.66, R.R.F. Knights Point, Haast, 16.iii.66, R.R.F. Hidden Falls Hut, under logs, 21.i.55, 27.i.55, R.R.F., J. S. Dugdale. Hidden Falls Valley, under logs, 21.i.55, R.R.F., J. S. Dugdale. Lower Hollyford, Avalanche Creek Track, 12.i.71, R.R.F. McKerrow Hut, Hollyford Valley, 24.i.55, R.R.F., J. S. Dugdale. Gunns Camp, Hollyford, 18.v.60, J. Winter. Cascade Creek, 15.ii.66, R.R.F. Homer, 16.ii.66, R.R.F., C.L.W. Avoca Hut, 20.i.56, L. Osborne. Spey River, in rotting log, Otago University Biological Society. Caswell Sound, 21.iii.49, R. K. Dell. Caswell Sound, 18.iv.49, R.R.F. Stillwater Base Camp, Caswell Sound, 3.iii.49, R. K. Dell.

Cycloctenus nelsonensis n.sp.

Figs. 58-61

FEMALE

Measurements

Carapace	length 5.6	width 4.4	
Abdomen	length 7.3	width 4.0	

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	5.0	2.1	4.5	4.9	2.0	18.5
2	5.2	2.2	4.2	4.9	2.0	18.5
3	4.9	2.0	4.0	5.2	2.2	18.3
4	5.6	2.0	4.9	6.7	2.8	22.0
Palp	2.5	0.8	1.2		2.4	6.9

Eyes Ratio of AME.ALE.PME.PLE = 7.5.10.13. AME separated by 5/7 and from the ALE by 11/7 of the diameter of an AME. PME separated by 7/7 and PLE by 40/7. MOQ wider behind than in front in ratio of 66:27 and longer than wide in front in ratio of 34:27.

Legs Spines. Leg 1, tibia and metatarsus v.2.2.2.2.2. Leg 2, tibia v.2.2.2.2.2, metatarsus v.2.2.2.2.

Epigynum Fig. 61. Similar to *westlandica* but posterior plate wider and indentations above the plate deeper.

MALE

Measurements

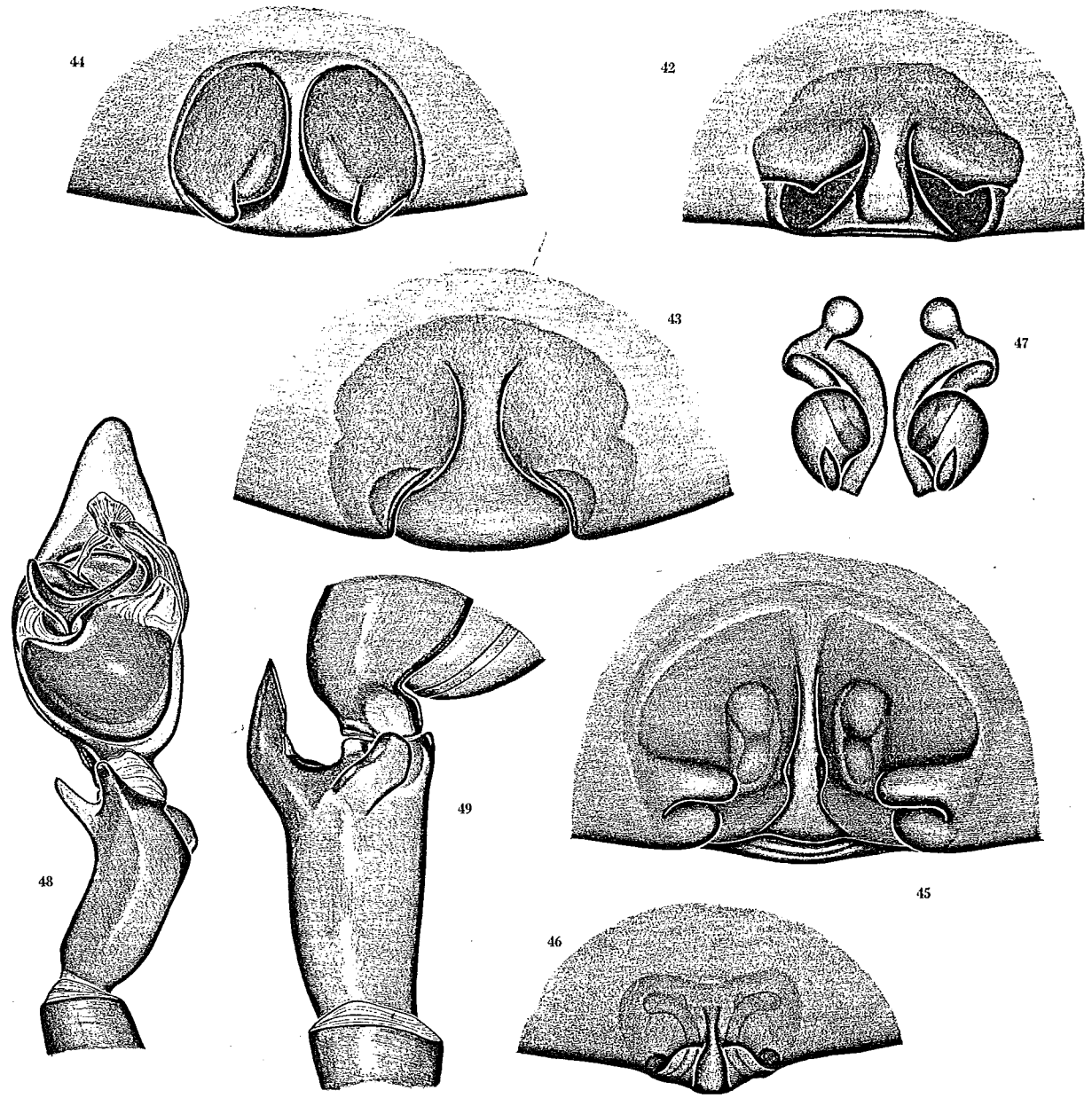
Carapace	length 5.0	width 4.2	
Abdomen	length 4.9	width 2.5	

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	6.4	2.2	5.7	6.4	2.6	23.5
2	6.2	2.2	5.6	6.5	2.6	23.1
3	5.9	2.1	4.8	7.4	2.9	23.1
4	6.6	2.0	5.7	8.4	3.2	25.9
Palp	2.1	0.9	0.9		2.1	6.0

Palp as in Figs. 58-60. There is a minute tegular tubercle as in *westlandica* but median apophysis slender, approaching that of *fiordensis*.

Types Holotype male, allotype female. Nelson, Flora Track, under logs, iv.46, R.R.F. (National Museum).

Records South Island. Nelson. Canaan, 3.ii.69, C.L.W. Wairoa Gorge, iii.66, C.L.W. Mt. Balloon Cave, 26.i.48, R.R.F. Takaka Cave, near mouth, 16.xii.61, B. J. Marples. Upper Takaka, 20.v.52, C. Holmes. Portia Creek, near Boulder Lake, 22.iv.62, R. G. Ordish. Motueka, Brooklyn Domain, 6.ii.69, C.L.W. Riwaka, 11.iv.68, C.L.W. Flora Track, under logs, 17.iv.46, R.R.F. Lower Flora Track, under logs, 20.i.48, R.R.F. Mt. Arthur Track, under logs, 22.i.48, R.R.F. Marlborough. Pelorus Bridge, 27.viii.60, P. M. Johns. Blenheim, Onamalutu Domain, 14.viii.60, P. M. Johns.



Figs. 42-49 Australian *Cycloctenus* Fig. 42 *Cycloctenus flaviceps* epigynum Fig. 43 *Cycloctenus abyssinus* epigynum Fig. 44 *Cycloctenus* sp. epigynum Portland, Victoria. Fig. 45 *Cycloctenus* sp. epigynum, Victoria. Figs. 46-47 *Cycloctenus* sp. Tasmania Fig. 46 Epigynum Fig. 47 Internal genitalia from above Figs. 48-49 *Cycloctenus* sp. Wyandbene Cave Male palp.

Cycloctenus paturau n.sp.

Figs. 55-57

FEMALE

Measurements

Carapace	length 4.9	width 4.8
Abdomen	length 5.9	width 3.9

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	6.7	2.1	7.0	7.0	2.8	25.6
2	7.0	1.8	6.3	7.0	2.8	24.9
3	6.3	1.7	5.6	7.3	2.8	23.7
4	6.7	2.0	6.4	8.7	3.6	27.4
Palp	1.8	1.0	1.8		2.4	7.0

General colouration yellowish-brown without the strong black or brown markings characteristic of surface dwelling species. There is a pair of dark patches on the posterior surface of the carapace and a few scattered markings on the abdomen. Legs weakly banded. The eyes do not show any adaptations to cave life. Ratio of AME.ALE.PME.PLE = 8.7.12.13. AME separated by 6/8 and from ALE by 15/8 of the diameter of an AME. PME separated by 8/8 and from the PLE by 14/8. PLE separated by 47/8 of the diameter of an AME. MOQ wider behind than in front in ratio 73:32 and longer than wide in front in ratio 39:32.

Legs relatively long and slender. Spination typical. Legs 1,2 tibia v.2.2.2.2.2. metatarsus v.2.2.2.2. The epigynum shows a relationship with *nelsonensis* but the posterior plate is more completely fused and the median ridge extends further back (Fig. 55).

MALE

Measurements

Carapace	length 5.9	width 4.9	
Abdomen	length 5.9	width 3.6	

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	11.2	2.8	11.2	11.9	3.6	40.7
2	9.8	2.8	10.5	11.9	3.6	38.6
3	9.1	2.1	7.0	10.5	3.5	32.2
4	9.4	1.7	7.7	12.6	3.5	34.9
Palp	2.8	0.8	1.2		2.4	7.2

When compared with *nelsonensis* the tibia of the palp is relatively longer (Fig. 56) and the median apophysis is a different shape (Fig. 57).

Types Holotype female, allotype male. N.W. Nelson, in caves south of Paturau River, 24.x.1960, J. I. Townsend (Ent. Div. DSIR).

Records Nelson. Nana Split, Paturau, 29.xii.69, J. I. Townsend. Prouses Cave, North of Paturau River, 17.iii.67, D. Coates. Caves South of Paturau, i.61, J. I. Townsend. Little Cave, Paturau, 24.vi.61, C. I. C. Don. Pillar Cave, Mt. Arthur Tableland, 24.iii.71, C. M. Smith, J. I. Townsend. Richard Cave, Mt. Arthur Tableland, 24.iii.71, C. M. Smith. Motapipi Cave, 1962, J. I. Townsend. Motapipi Cave, i.1961, L. Kermade, R. Christianson.

The most striking characteristic of this species is the elongation of the legs and loss of pigment. It has undoubtedly been derived from *nelsonensis*. The spiders listed above from other caves in the Nelson area are probably not directly conspecific with those from the Paturau caves but represent different stages of divergence from the parent species. Much more material and a study of live material is needed before any firm conclusions can be reached on speciation.

Cycloctenus fiordensis n.sp.

Figs. 8, 62-65

FEMALE

Measurements

Carapace	length 5.9	width 4.8	
Abdomen	length 8.0	width 5.3	

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	5.5	2.4	5.4	5.5	2.2	21.0
2	5.7	2.3	5.0	5.6	2.0	20.6
3	5.5	2.0	4.6	5.9	2.2	20.2
4	6.4	2.3	5.2	7.4	2.9	24.2
Palp	2.3	1.1	1.5		2.5	7.4

Eyes Ratio of AME.ALE.PME.PLE = 6.7.14.13. AME separated by 7/6 and twice this distance from the ALE. PME separated by 53/6 and from the PME by 16/6 of the diameter of an AME. PME separated by 13/6. MOQ wider behind than in front in ratio 79:41 and longer than wide in front in ratio 43:41.

Legs Legs 1.2 tibia v.2.2.2.2.2, metatarsus v.2.2.2.2.

Epigynum as in Fig. 65. Similar to *nelsonensis* but posterior plate relatively broader and median ridge more pronounced.

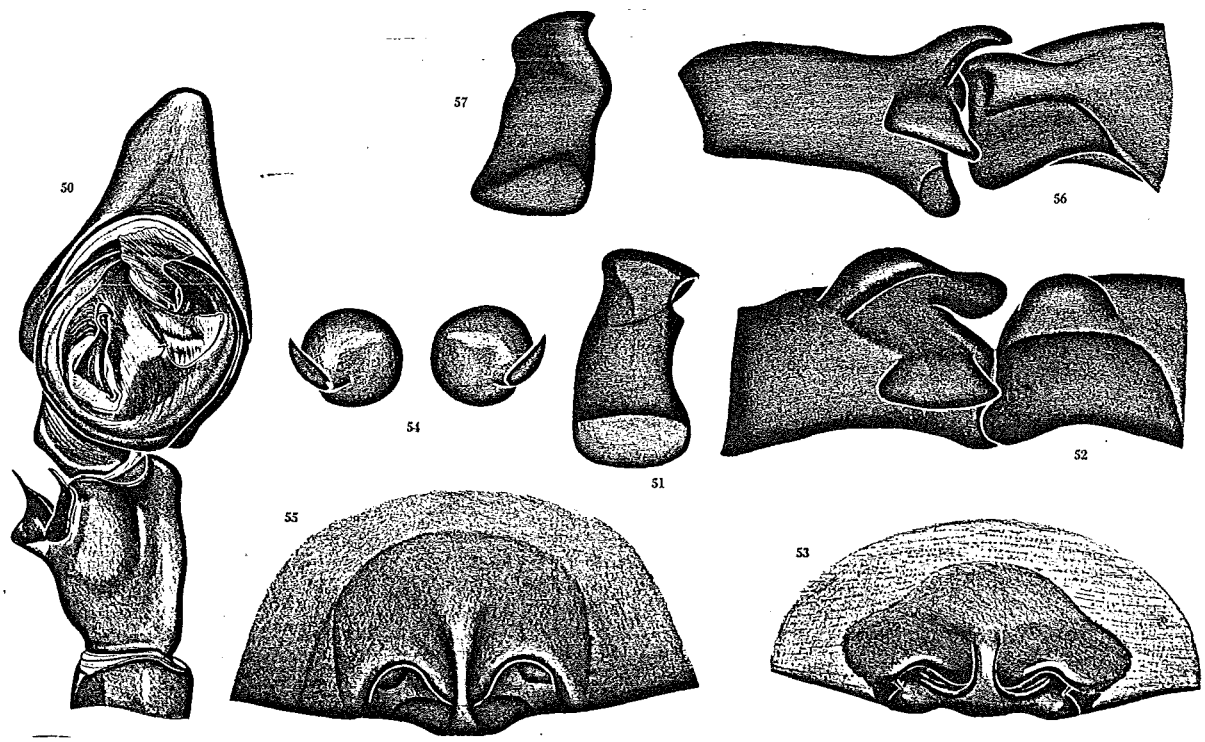
MALE

Measurements

Carapace	length 3.9	width 3.3	
Abdomen	length 4.3	width 2.2	

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	5.2	1.3	5.0	5.7	1.9	19.1
2	4.7	1.7	4.2	5.3	1.7	17.6
3	4.6	1.6	3.9	4.5	1.6	17.2
4	4.8	1.6	4.5	6.5	2.5	19.9
Palp	1.7	0.8	0.7		1.7	4.9

Palp similar to *nelsonensis* (Figs. 62-63) but the retrolateral process on the tibia is of a different shape and the dorsal process is slender. Median apophysis is quite distinct (Fig. 64).

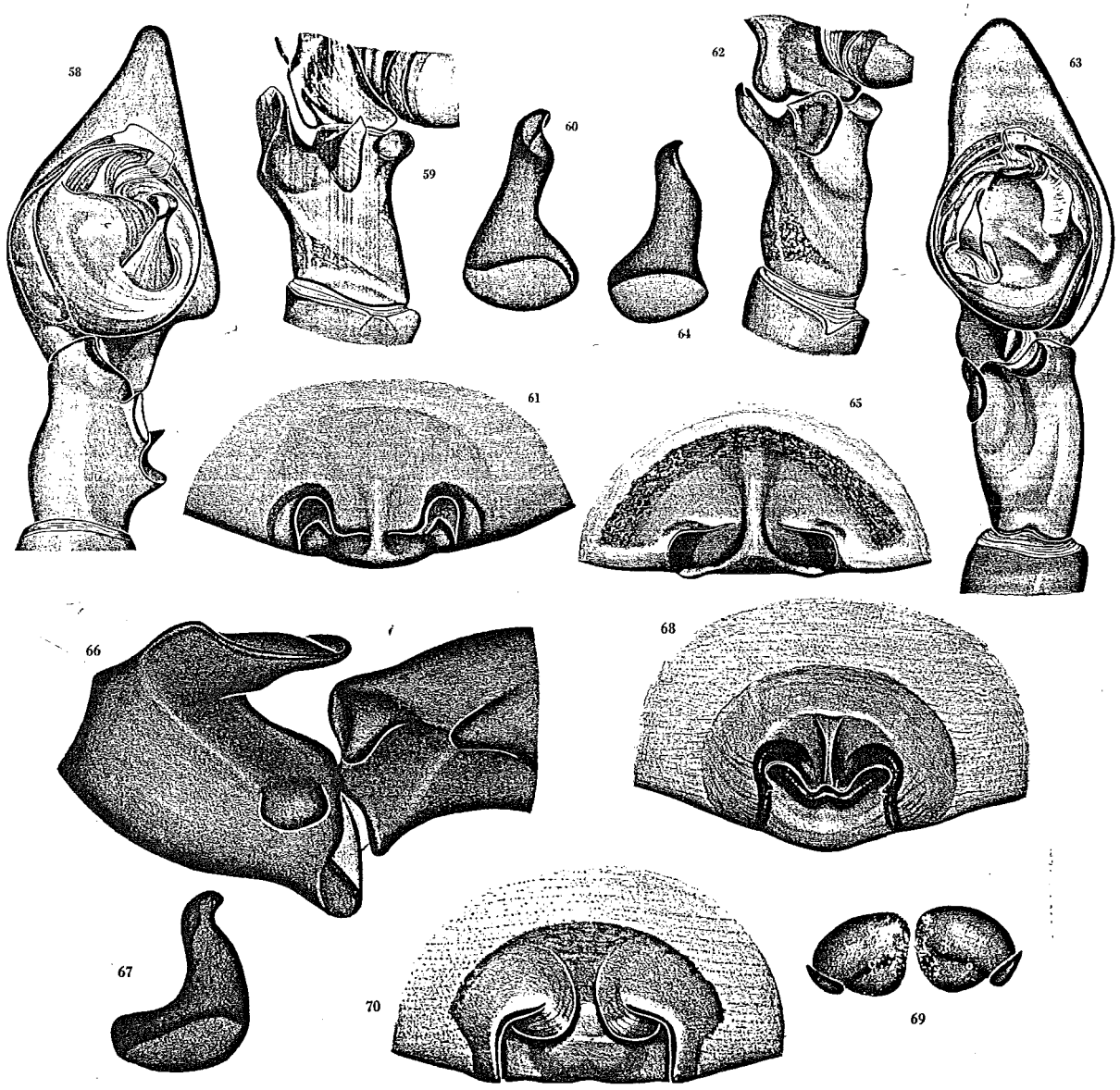


Figs. 50-54 *Cycloctenus westlandicus* Fig. 50 Ventral view of palp Fig. 51 Median apophysis Fig. 52 Retrolateral surface of tibia and cymbium of male palp Fig. 53 Epigynum Fig. 54 Internal genitalia from above Figs. 55-57 *Cycloctenus paturau* n. sp. Fig. 55 Epigynum Fig. 56 Retrolateral surface of tibia and cymbium of male palp Fig. 57 Median apophysis

Types Holotype female, allotype male. Fiordland. Thompson Sound, 2800ft. 22.i.1958, R. R. Forster (Otago Museum).

Records South Island. Fiordland, Caswell Sound, Upper Stillwater River, under logs, 13.iv.49, R.R.F. Caswell Sound, Stillwater Base Camp, under logs, 11.iv.49, R.R.F. Caswell Sound, under logs, 18.iv.49, R.R.F. Caswell Sound, Leslie clearing, 15.iii.49, R. K. Dell. Milford Sound, 30.i.46, R.R.F. Milford Sound, under log, 19.xii.73, R.R.F. Deep Cove, 11.i.58, R. A. Chapman. Deep Cove, collected with light at night, 25.iv.58, R.R.F. Lake Howdon, under logs, 23.i.46, R.R.F. Tutoko Valley, c. 152m 16.iii.72, K. Mason. Spey River, beech bark at night, 13.ii.59, Otago University Biological Society. Spey River, under stones, 13.ii.59, Otago University Biological Society. Thompson Sound, sea-level under logs, 14.i.58, R.R.F. Thompson Sound, upper camp, 820m, under logs, 22.i.58, R.R.F. Thompson Sound, Tops above Upper Camp 908m, 21.i.58, R. A. Chapman. Top Camp, Thompson Sound, 18.i.58, R. A. Chapman. Thompson Sound, Upper Camp 820m, ex moss on trees, 19.i.58, R.R.F. Doubtful Sound, 12.ii.53, B. J. Marples. Doubtful Sound, moss and Rimu bark, 17.ii.59, Otago University Biological Society. Wet Jacket Arm, South side Dusky Sound, ex leaf mould and wood on site Dohertys Mine, 5.ii.55, R. Close.

This species ranges throughout the forest from sea-level and is also common well above the bush-line in herbfields and on screes.



Figs. 58-61 *Cycloctenus nelsonensis* n. sp. Fig. 58 Ventral aspect tibia male palp Fig. 60 Median apophysis Fig. 61 Epigynum Figs. 62-65 *Cycloctenus fiordensis* n. sp. Fig. 62 Retrolateral tibia male palp Fig. 63 Ventral aspect male palp Fig. 64 Median apophysis Fig. 65 Epigynum Figs. 66-68 *Cycloctenus lepidus* Fig. 66 Retrolateral tibia male palp Fig. 67 Median apophysis Fig. 68 Epigynum Figs. 69-70 *Cycloctenus agilis* n. sp. Fig. 69 Internal genitalia Fig. 70 Epigynum.

Cycloctenus lepidus Urquhart

Cycloctenus lepidus Urquhart 1890. Trans. N. Zeal. Inst. 22:261. 1892. Trans. N. Zeal. Inst. 24:228. Pickard-Cambridge 1897 Ann. Mag. Nat. Hist. 20:255. Simon 1898. Hist. Nat. Araign. 2(2):352. Rainbow 1911. Rec. Austr. Mus. 9:276 (=*flaviceps*). Roewer 1954. Katalog Aran. 2A:314 (=*flaviceps*). Bonnet 1956. Bibl. Aran. 2(2):1306 (=*flaviceps*).

Figs. 66-68

FEMALE

Measurements

Carapace	length 4.3		width 3.6
Abdomen	length 6.0		width 4.1

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	3.8	1.6	3.7	3.9	1.6	14.6
2	4.1	1.5	3.5	3.6	1.5	14.2
3	3.9	1.4	3.4	3.2	1.9	13.8
4	4.6	1.4	3.7	5.5	2.2	17.4
Palp	1.6	0.7	1.1		1.8	5.2

Eyes Ratio of AME.ALE.PME.PLE = 5.4.10.11. AME separated by 5/5 and from the ALE by 11/5 of the diameter of an AME. PME separated by 5/5 and PLE separated by 33/5. MOQ wider behind than in front in ratio of 11:5 and longer than wide in front in ratio of 6:5.

Legs Spines. Legs 1.2 tibia and metatarsus v.2.2.2.2.

Epigynum (Fig. 68) Posterior plate broadly rectangular as in *agilis* but clearly different.

MALE

Measurements

Carapace	length 4.0		width 3.2
Abdomen	length 3.9		width 2.5

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	3.8	1.6	4.2	4.5	1.8	15.9
2	4.2	1.5	4.2	4.3	1.9	16.1
3	4.1	1.4	3.7	4.9	2.1	16.3
4	4.1	1.3	4.2	5.8	2.4	17.8
Palp	1.6	0.7	0.8		1.6	4.7

Dorsal process of tibia of palp proximal and widely separated from second process (Fig. 66). Median apophysis broad at base but narrow distally (Fig. 67).

Types Female syntypes. Wellington, T. Kirk (Urquhart Collection, Canterbury Museum).

Records North Island. Feilding, Kitchener Park, 29.xii.66, R.R.F. Pohangina Valley, Totara Reserve, 26.xii.66, R.R.F., D.R.F. Kiriwhakapapa, 6.iii.66, C.L.W. Western side of Rimutakas, 240 m, 13.vi.48, R. K. Dell. Waikanae, 6.ii.43. Waikanae, ex foliage, 3.i.48, R.R.F.

The fact that this distinctive species should have been synonymised with the Australian *flaviceps* is not really surprising as the type material had not been examined and the degree of speciation in these spiders in both Australia and New Zealand has only now been recognised.

Cycloctenus agilis n.sp.

Figs. 69-70

FEMALE

Measurements

Carapace	length 4.6		width 4.0
Abdomen	length 8.4		width 6.1

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	4.3	1.9	4.2	4.0	1.8	16.2
2	4.3	1.8	3.9	4.0	1.7	15.7
3	4.0	1.5	3.6	4.6	1.6	15.3
4	5.2	1.6	4.3	5.8	2.1	19.0
Palp	1.8	1.0	1.1		1.7	5.6

Eyes Ratio of AME.ALE.PME.PLE = 7.6.12.12. AME separated by 5/7 and from the ALE by 11/7 of the diameter of an AME. PME separated by 7/7 and PLE separated by 45/7 of the diameter of an AME. MOQ wider behind than in front in ratio 69:31 and longer than wide in front in ratio 36:31.

Legs Spines. Legs 1.2 tibia and metatarsus v.2.2.2.2.

Epigynum Fig. 68. Posterior plate broad as in *lepidus* but fused anteriorly.

Types Holotype female. Canterbury, Peel Forest, 29.ix.1966, R. R. Forster (Otago Museum). Male not known.

Records South Island. Canterbury. Alford Forest, 12.ix.54, R.R.F. Peel Forest, under logs, 9.ii.45, R.R.F. Waimate, Kelseys Bush, 19.x.67, C.L.W. Kakahu, leaf mould, 30.iv.50, R.R.F.

This species is close to *lepidus* from the Wellington area but the genitalia are distinct.

Cycloctenus pulcher Urquhart

Cycloctenus pulcher Urquhart 1891. Trans. N. Zeal. Inst. 23:183. Pickard-Cambridge 1897. Ann. Mag. Nat. Hist. 20:355. Simon 1892. Hist. Nat. Araign. 1(1):228. Dalmas 1917. Ann. Soc. ent. Fr. 86:414.

Figs. 71-74

FEMALE

Measurements

Carapace	length 5.8		width 4.3
Abdomen	length 9.7		width 6.8

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	5.1	2.3	4.6	4.7	1.9	17.7
2	5.2	2.3	4.6	5.3	1.9	19.3
3	5.0	2.0	4.0	5.0	1.9	17.9
4	5.8	2.1	5.2	6.7	2.5	22.3
Palp	2.1	0.9	1.3		2.1	6.4

Eyes Ratio of AME.ALE.PME.PLE = 8.11.14.14. AME separated by 7 8 and from ALE by 12/8 of diameter of an AME. Laterals separated by 9 8. PME separated by 7/8 and from PLE by 15 8. PLE separated by 50/8. MOQ wider behind than in front in ratio 78:35 and longer than wide in front in ratio 43:35.

Legs Spines. Leg 1 tibia v.2.2.2.2.2, metatarsus v.2.2.2.2. Leg 2 tibia v.2.2.2, metatarsus v.2.2.2.2.

Genitalia Posterior plate of epigynum completely fused and flanked by large lateral lobes. (Fig. 74).

MALE

Measurements

Carapace	length 3.9		width 3.3
Abdomen	length 4.6		width 3.0

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	4.4	1.6	4.5	5.0	1.9	17.4
2	4.7	1.8	4.3	5.1	1.9	17.8
3	4.4	1.5	4.0	4.9	2.0	16.8
4	4.7	1.5	4.5	6.3	2.2	19.2
Palp	1.6	0.7	0.6		1.6	4.5

The palp is easily recognised by the shape of the median apophysis which has a recurved apex and also the strongly developed tegular spine (Figs. 71-73).

Types Holotype female collected by T. Kirk from Wellington (lost).

Records North Island. Wairarapa. Turanganui River, ix.46, O'Connor. Mt. Ross, v.47, R.R.F. Solway Showground, Masterton, 18.iii.66, C.L.W. Solway, 8.i.58, R. R. Hutton, C.L.W. Wellington. Levin, 6.vi.48, R.R.F. Kapiti Island, 20.x.46, M. Ross. Kapiti Island, v.47, R.R.F. Waikanae, ex foliage, 3.i.48, R.R.F. Tararua Ranges, under stone, 1.xii.52, B. A. Holloway. Silverstream, Hutt Valley, 5.xii.53, J. Dugdale. Orongorongo, Upper Wainui Valley, 19.iv.54, B. A. Holloway. Stokes Valley, 10.i.48, R.R.F. Karori Hills, 26.iv.46, R.R.F. Karori, 12.vii.42, 19.ix.46, 10.iv.48, 2.viii.42, R.R.F. Karori, under logs, 19.ix.46, R.R.F. Karori, Johnsons Park, 24.vii.46, R.R.F. Karori, 18.x.42, J. T. Salmon. Waikanae, foliage, 3.i.48, R.R.F. Kelburn, 3.v.41, F. A. Bodley. Days Bay, 30.xi.47. South Island. Marlborough. Trio Island, 20.xii.45, G. Ramsay. Middle Trio Island, 2.xii.53, B.A.H. Pickersgill Island, Queen Charlotte Sound, 7.xi.61, B. A. Holloway. Stephen Island, 15.v.50, .R.R.F. Maud Island, 13.xi.49, E. S. Gourlay. Motu Ngarititi Island, 12.ix.48, R. K. Dell. Ships Cove, 12.ix.48, R. K. Dell.

While it is not certain from Urquhart's description that the species described above is his species it is the most common species in the Wellington city area.

Cycloctenus centralis n.sp.

Figs. 75-78

FEMALE

Measurements

Carapace	length 4.8		width 3.8
Abdomen	length 5.5		width 3.2

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	4.7	1.8	4.2	4.5	2.0	17.2
2	4.7	1.8	3.9	4.3	2.0	16.7
3	4.5	1.5	3.7	4.3	2.2	17.2
4	5.0	1.5	4.3	5.6	2.7	19.1
Palp	1.8	1.0	1.2		2.1	6.1

Eyes Ratio of AME.ALE.PME.PLE = 6.5.9.12. AME separated by 6/6 and from ALE by 10/6 of diameter of an AME. Laterals separated by 7/6. PME separated from each other by 7/6 and from PLE by 12/6. PLE separated by 42/6.

Legs Spines. Legs 1,2 tibia v.2.2.2.2.2, metatarsus v.2.2.2.2.

Genitalia Epigynum characterised by a prominent median swelling (Fig. 78).

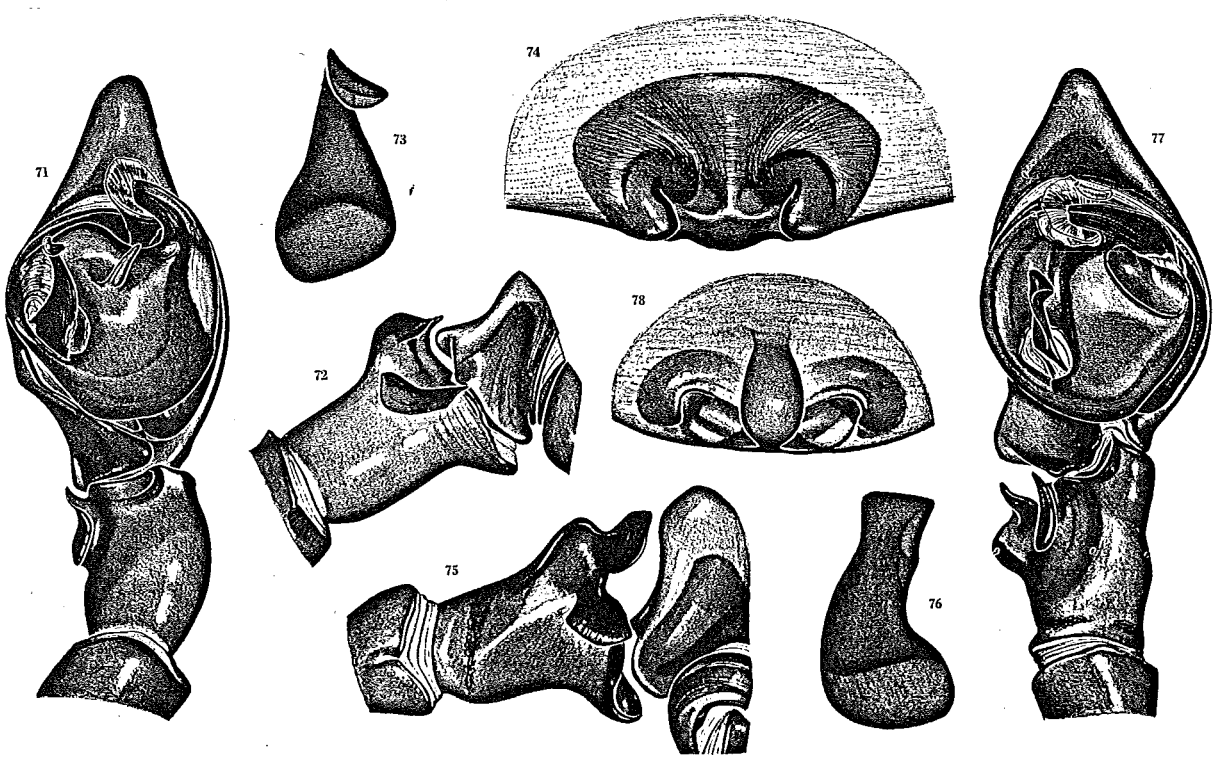
MALE

Measurements

Carapace	length 4.7		width 4.0
Abdomen	length 5.3		width 3.4

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	5.9	2.1	6.2	7.2	2.7	24.1
2	6.0	2.2	5.4	6.3	2.5	22.4
3	5.4	1.8	4.5	6.0	2.6	20.3
4	5.9	2.0	5.0	7.2	3.0	23.1
Palp	1.9	0.9	0.8		2.1	5.7

Tibial processes of palp strongly developed (Fig. 75). Shape of median apophysis characteristic (Fig. 76).



Figs. 71-74 *Cycloctenus pulcher* Fig. 71 Ventral view of male palp Fig. 72 Retrolateral tibia male palp Fig. 73 Median apophysis Fig. 74 Epigynum Figs. 75-78 *Cycloctenus centralis* n. sp. Fig. 75 Retrolateral Tibia male palp Fig. 76 Median apophysis Fig. 77 Ventral aspect male palp Fig. 78 Epigynum

Types Holotype female, allotype male. Taranaki. Mount Egmont, 21.iii.1969, R. R. Forster, C. L. Wilton (Otago Museum).

Records North Island. Northland. Whangarei, Mair Park, 8.i.67, R.R.F., D.R.F. Kohukohu, ex bush, 28.vii.53, B. J. Marples. Auckland. Titirangi, 12.xii.45, R.R.F. Titirangi, 3.iv.54, J. Chapple. Papakura, Kirks Reserve, 26.iii.67, K. A. J. Wise. Thames, ex gold mine, 26.iv.58, A. M. Richards. Taupo district, east of Whenuka Plain, 26.i.56, R. K. Dell. Taumaranui, Tuna Saddle, 10.i.67, R.R.F., D.R.F. Upper Waihaka, West Taupo, 4.xi.53, R. K. Dell. Waitomo Cave, near entrance, 3.xi.54, A. Richards. Waikaremoana, 13.xii.46, R.R.F. Te Awamutu, near stream, 136m in Karamu Cave, 17.viii.57, P. Skinner. Taranaki. Mt. Messenger, 22.iii.67, R.R.F. Mt. Egmont, 1066m, 21.iii.69, R.R.F., C.L.W. Inglewood, ex bush, 28.viii.69, B. J. Marples. Hawkes Bay. Aniwaniwana, 13.xii.46, R.R.F. Wellington. Wanganui, Bushy Park, 14.iii.69, R.R.F., C.L.W. Chateau Tongariro, 20.xii.48, R.R.F. Vinegar Hill Reserve, 12.xii.48, R.R.F. Pohangina, Totara Reserve, 20.i.67, R.R.F.

The lack of series of specimens from any locality other than Mt. Egmont and the paucity of males leaves doubts as to whether the specimens recorded are a single species. The prominent median swelling on the epigynum of Mt. Egmont material is represented by smaller swellings on specimens from elsewhere and the fusion of the posterior plate makes the epigynum difficult to characterise. Further collections including males will be needed to clarify the speciation represented.

Cycloctenus duplex n.sp.

Figs. 83-85

FEMALE

Measurements

Carapace	length 6.0		width 4.7
Abdomen	length 9.2		width 6.0

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	5.2	2.2	4.8	4.8	2.0	19.0
2	5.6	2.3	4.6	5.0	1.8	21.3
3	5.3	2.0	4.4	5.3	2.0	19.0
4	6.2	2.0	5.3	7.3	2.6	23.4
Palp	2.2	1.2	1.3		2.5	7.2

Eyes Ratio of AME.ALE.PME.PLE = 12.13.28.28. AME separated by 15/12 and from ALE by 30/12 of diameter of an AME. Laterals separated by 15/12. PME separated by 21/12, PLE by 105/12. MOQ wider behind than in front in ratio 15:7 and longer than wide in front in ratio 8:7.

Legs Spines. Leg 1 tibia and metatarsus v.2.2.2.2. Leg 2 tibia v.2.2.2.2.2. metatarsus v.2.2.2.

Genitalia Fig. 83. Posterior plate of epigynum narrow and fused mesially.

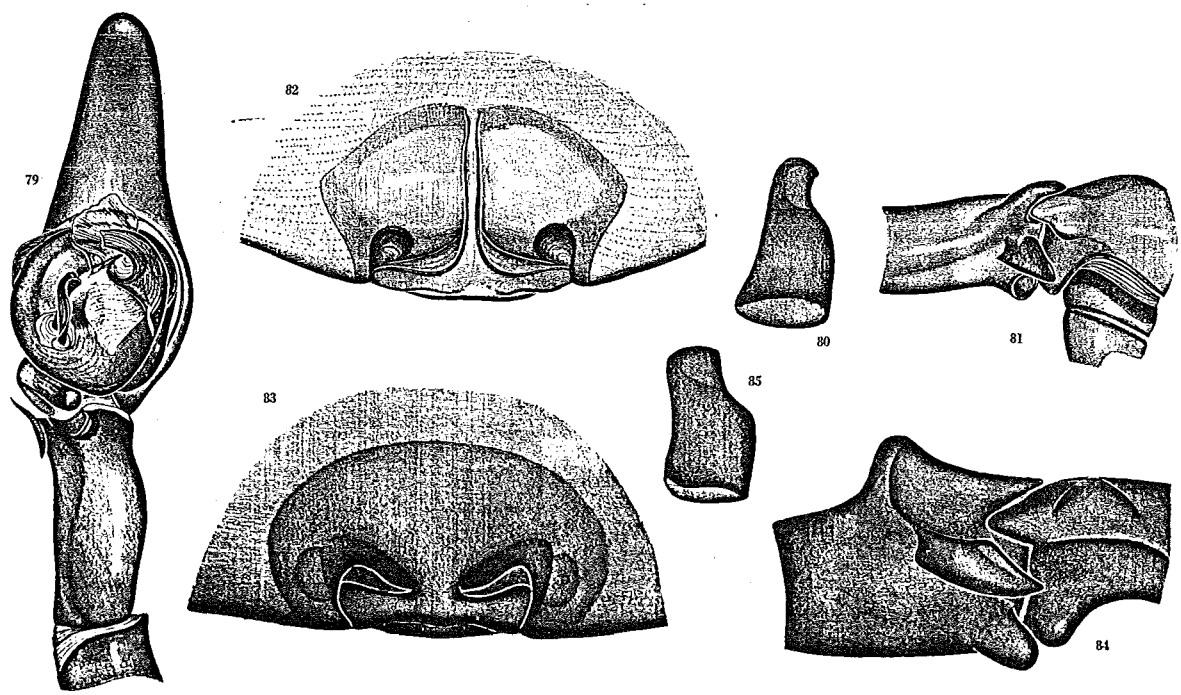
MALE

Measurements

Carapace	length 4.8		width 4.0
Abdomen	length 5.2		width 3.2

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	4.8	2.0	4.7	4.8	1.8	18.1
2	5.0	2.1	4.5	5.0	2.0	18.6
3	5.0	1.8	4.2	5.5	2.1	18.6
4	5.3	1.7	4.8	6.8	2.1	20.7
Palp	1.8	0.8	0.8		2.1	5.5

Tibial processes of palp strongly developed with the dorsal branch extending down two thirds of segment. (Fig. 84). Median apophysis broad (Fig. 85).



Figs. 79-82 *Cycloctenus fugax* Fig. 79 Ventral view male palp Fig. 80 Median apophysis Fig. 81 Retrolateral tibia male palp Fig. 82 Epigynum Fig. 83 *Cycloctenus duplex* n. sp. Fig. 83 Epigynum Fig. 84 Retrolateral tibia male palp Fig. 85 Median apophysis

Types Holotype female. Otago. Catlins near Puketiro Road junction, 31.viii.1966, R. R. Forster, allotype male, Tapanui, 25.i.1951, R. R. Forster (Otago Museum).

Records South Island. Otago. Tapanui, 25.i.51, R.R.F. Catlins, near Puketiro Road junction, 31.viii.66, R.R.F. Tautau, Beech forest, under logs, 13.iv.63, R.R.F.

Closely related to *westlandica* from which it may be separated by differences in the male and female genitalia.

Cycloctenus fugax Goyen

Cycloctenus fugax Goyen 1890. Trans. N. Zeal. Inst. 22:267. Pickard-Cambridge 1897. Ann. Mag. Nat. Hist. 20:355. Simon 1898. Hist. Nat. Araign. 2(2):352. Dalmas 1917. Ann. Soc. ent. Fr. 86:414.

Figs. 79-82

MALE

Measurements

Carapace	length 4.6	width 3.8	
Abdomen	length 5.0	width 2.9	

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	5.5	2.0	5.7	6.0	1.9	21.1
2	5.3	1.8	4.5	5.4	2.0	19.0
3	5.0	1.7	4.0	5.5	2.1	18.3
4	5.4	1.8	4.9	6.6	2.5	21.2
Palp	2.3	0.9	1.0		2.1	6.3

Eyes Ratio of AME.ALE.PME.PLE = 10.8.16.16. ALE separated by 7/10 and from ALE by 12/10 of diameter of an AME. PLE separated from each other by 9/10 and from PLE by 16/10. PLE separated by 5 x diameter of an AME. MOQ wider behind than in front in ratio 88:41 and longer than wide in front in ratio 51:41.

Legs Spines. Legs 1.2 tibia and metatarsus v.2.2.2.2. Leg 3 tibia v.2.2.2, metatarsus v.2.2.0. Leg 4 tibia v.2.1.1, metatarsus v.2.2.2.

Palp (Figs. 79-81). Cymbium long and slender extending well beyond the bulb. Tibial processes relatively small and situated distally.

FEMALE

Measurements

Carapace	length 5.2	width 4.3	
Abdomen	length 6.5	width 4.0	

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	4.9	2.1	4.3	4.8	1.8	18.0
2	5.0	2.0	4.4	4.4	1.9	17.7
3	4.9	2.0	4.0	5.1	2.3	18.3
4	5.6	1.8	4.8	6.0	2.5	20.7
Palp	2.2	1.0	1.4		2.4	7.0

The epigynum is one of the most distinctive of the New Zealand *Cycloctenus* (Fig. 82) with the narrow posterior plate fused to a slender median ridge which extends forward to the anterior margin of the epigynal area.

Types Goyens material came from Dunedin and Clutha Valley. Types lost.

Records South Island. Otago. Warrington, i.1900. Leith Saddle, pitfall, 25.i.67, 7.ii.67, 20.ii.67, 9.iii.67, R.R.F. Leith Saddle, 10.i.68, 30.ix.73, R.R.F. Signal Hill, Dunedin, under logs, 1.ii.58, 1.v.58, R.R.F. Opoho Bush, Cemetery Road, pitfall, 14.xii.70-21.xii.70, 1.ii.71-8.ii.71, C.L.W. Dunedin, Botanical Gardens, pitfall, 12.i.60, J. Kikkawa. Dunedin, iv.60, R.R.F. Frasers Gully, 13.v.67, R. W. Hutton. Ross Creek Reservoir, at night, 15.ix.71, Sullivans Dam, 16.ii.43, J. T. Salmon. Flagstaff, pitfall, 17.i.71-23.i.71, C.L.W. Taieri, 26.i.57, R.R.F. Waipori Gorge, 9.vii.73, R.R.F. Bull Creek, 14.v.67, R. W. Hutton, C.L.W. Balclutha Plant Reserve, 20.xi.58, R.R.F.

This is the common species in the Dunedin area. Found mainly in forest but also in tussock country.

Toxopsiella Forster

Toxopsiella Forster 1964. Ann. Natal Mus. 16:114. Lehtinen 1967. Ann. Zool. Fenn. 4:271.

Medium sized cycloctenids with normal leg positions. Carapace distinctly longer than wide. Eight eyes in two strongly recurved rows with posterior eyes much larger than the anterior eyes. PME more widely separated than in *Cycloctenus* while the ALE rarely extend further back than the anterior margin of the PME. Chelicerae vertical, with strong lateral boss. Two teeth on promargin and five on retromargin of which three are minute and sometimes missing. Sternum scutiform, distinctly longer than wide with the posterior projection longer than in *Cycloctenus* (Fig. 41). Labium as long as wide, with basal notches. Maxillae sub-parallel. Legs strongly spined with a double row on the ventral surfaces of tibiae and metatarsi of all legs. Trichobothria in a double row on tibiae and single row on metatarsi and tarsi. Bothria as in Fig. 4. Tarsal organ as in Fig. 7. Three claws, superior with single row of from 6 - 9 teeth, inferior with 1 - 3 teeth. Female palp with toothed claw. Male palp with strong tibial processes. Embolus stout, conductor membraneous, median apophysis well developed of varying shapes. Epigynum usually inconspicuous. Internal genitalia with pair of spherical receptacula and short ducts.

Type species Toxopsiella lawrencei Forster

Of the seventeen species described when the genus was established (Forster, 1964) seven have since been removed to a separate genus *Hapona* (Forster, 1970) in the Desidae. At the time these dictynoid species were described no males were known and the tracheal system had not been examined.

The genus as it is now defined encompasses a relatively homogeneous series of species which are closely related to *Cycloctenus* but differ mainly in not being laterigrade. They are found on forest floor and in subalpine habitats as well as in tussock. They are all hunting spiders which do not construct snares and the eggsacs where known are plano-convex structures as in *Cycloctenus*.

The original descriptions of *lawrencei* and *dugdalei* were inadvertently transposed and this has been corrected below.

Toxopsiella is at present recorded only from New Zealand but Gray (pers.comm.) reports that this genus or a closely related one does occur in south-east Australia.

Toxopsiella lawrencei Forster

1964 *Toxopsiella lawrencei* Forster. Ann. Natal Mus. 16:123. Figs. 7, 33-34, 41, 90-91, 96-97

FEMALE

Measurements

Carapace	length 3.24	width 1.98
Abdomen	length 2.52	width 1.62

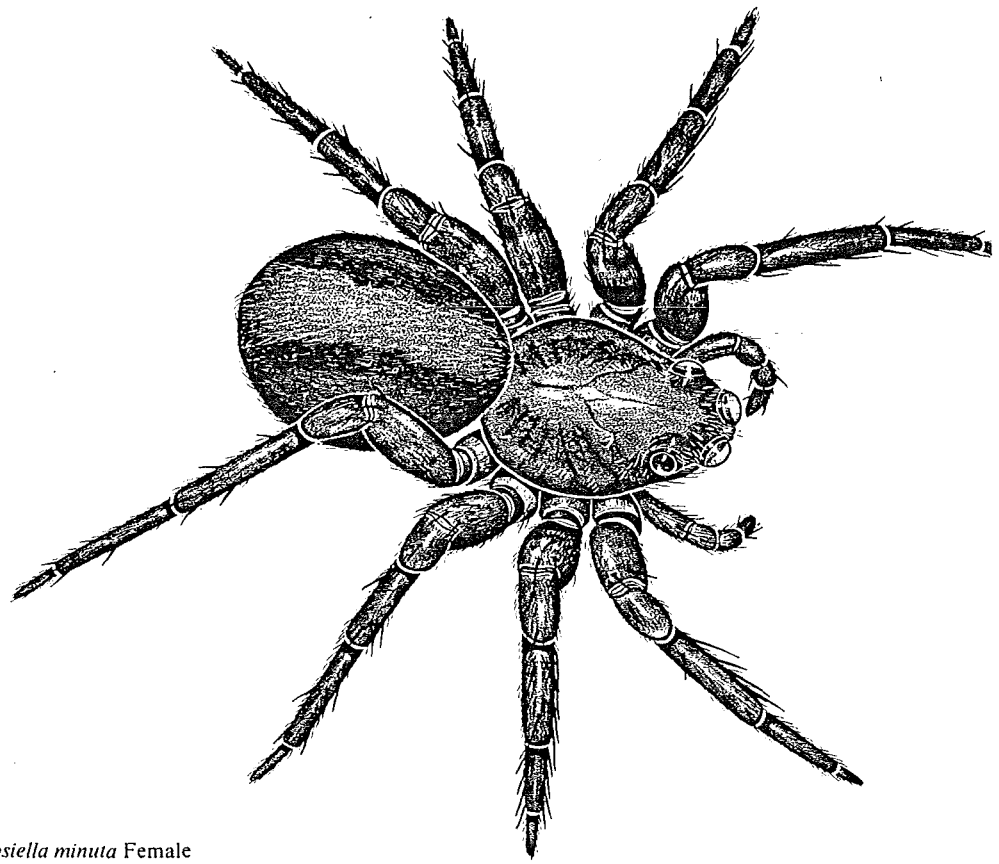


Fig. 87 *Toxopsiella minuta* Female

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	1.81	0.91	1.54	1.36	0.85	6.47
2	1.73	0.90	1.18	1.26	0.78	5.87
3	1.62	0.68	1.08	1.53	0.72	5.63
4	2.42	0.90	1.80	2.52	0.97	8.71
Palp	0.90	0.45	0.54	0.00	0.88	2.77

Colour Carapace dark-brown with pale area behind eyes which extends back as a narrow band to posterior margin where it merges with a further pale band down each sub-lateral margin. Abdomen mottled with black and pale brown patches on dorsal surface, paler on the ventral surface.

Eyes Ratio of AME.ALE.PME.PLE = 3.5.20.14. AME separated by twice and from PME by 4/3 of diameter of AME. PME separated from the ALE by 5/3, PLE by 14/3 and from each other by 11/3 of diameter of AME. PME separated from each other by 55/3 of diameter of AME. Height of clypeus equal to diameter of an AME.

Legs Tibia of first leg v.2.2.2. Metatarsus of first leg and tibia and metatarsus of second leg v.2.2.2.2. Superior claws with 7 strong teeth. Inferior claw with single tooth.

Genitalia Figs. 96, 97.

MALE

Measurements

Carapace	length 3.06	width 1.80	
Abdomen	length 2.16	width 1.44	

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	2.61	1.08	2.62	2.43	1.26	10.00
2	2.06	0.98	1.62	1.71	0.98	7.35
3	1.88	0.90	1.32	1.80	0.82	6.72
4	2.44	0.90	1.98	2.70	1.14	9.16

Legs The tibiae and metatarsi of the first and second pairs of legs v.2.2.2.2. The tibial process of palp with three plates with a central depression (Fig. 91). Embolus stout, distal, median apophysis a broad plate pointed distally (Fig. 90).

Types Holotype female, allotype male, Southland, Orepuki, 9.v.1949, R. R. Forster (Otago Museum).

Records South Island, Otago, Flagstaff, tussock, 10.xii.75, R.R.F. Waipori Gorge, 18.xi.66, R.R.F., C.L.W. Waipori Gorge, leaf mould, 18.xi.66, C.L.W., R.R.F. Waipori Gorge, leaf mould, 13.xi.70, R.R.F., C.L.W. Akatore Creek, 14.iv.66, C.L.W. Plant Reserve Balclutha, moss, 4.iv.66, R.R.F. Catlins, 31.viii.66, R.R.F. Catlins, near Puketiro Road, moss, 31.viii.66, R.R.F. Catlins, moss, 20.xii.66, R.R.F., C.L.W. Upper Tahakopa Valley, 14.ii.71, C.L.W. Southland, West Longwood Range, leaf mould, 14.iii.48, B. Beatson. Tuatapere, 24.x.75, Alton Burn, Tuatapere, bush, 11.iii.70, C.L.W. Croydon Bush, Gore, 17.ii.66, R.R.F. Colac Bay area, 24.xi.70, R.R.F., C.L.W.

Toxopsiella orientalis Forster

1964 *Toxopsiella orientalis* Forster, Ann. Natal Mus. 16:120. Figs. 92-93, 98-99

FEMALE

Measurements

Carapace	length 4.14	width 2.52	
Abdomen	length 4.32	width 3.06	

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	2.43	1.24	1.98	1.80	1.96	8.41
2	2.16	1.21	1.53	1.51	0.81	7.32
3	2.25	1.08	1.33	1.89	0.90	7.45
4	2.70	1.21	2.16	2.97	1.17	10.21
Palp	1.17	0.63	0.72	0.00	1.08	3.60

Colour Carapace brown with a pale area behind the eyes extending back as a median band to posterior margin. Abdomen brown with numerous small pale spots on dorsal surface, paler on ventral surface. Legs brown with dark patches.

Eyes Ratio of AME.ALE.PME.PLE = 4.5.23.12. AME separated from each other by 10/4 and from ALE by 6/4 of diameter of AME. PME separated by 26/4, from the ALE by 5/4 and from PLE by 22/4. PME separated by 15 times diameter of AME.

Legs Spines. Legs 1,2 tibia and metatarsus v.2.2.2.2. Superior claws with 7-8 teeth. Inferior smooth.

Genitalia Figs. 98, 99.

MALE

Measurements

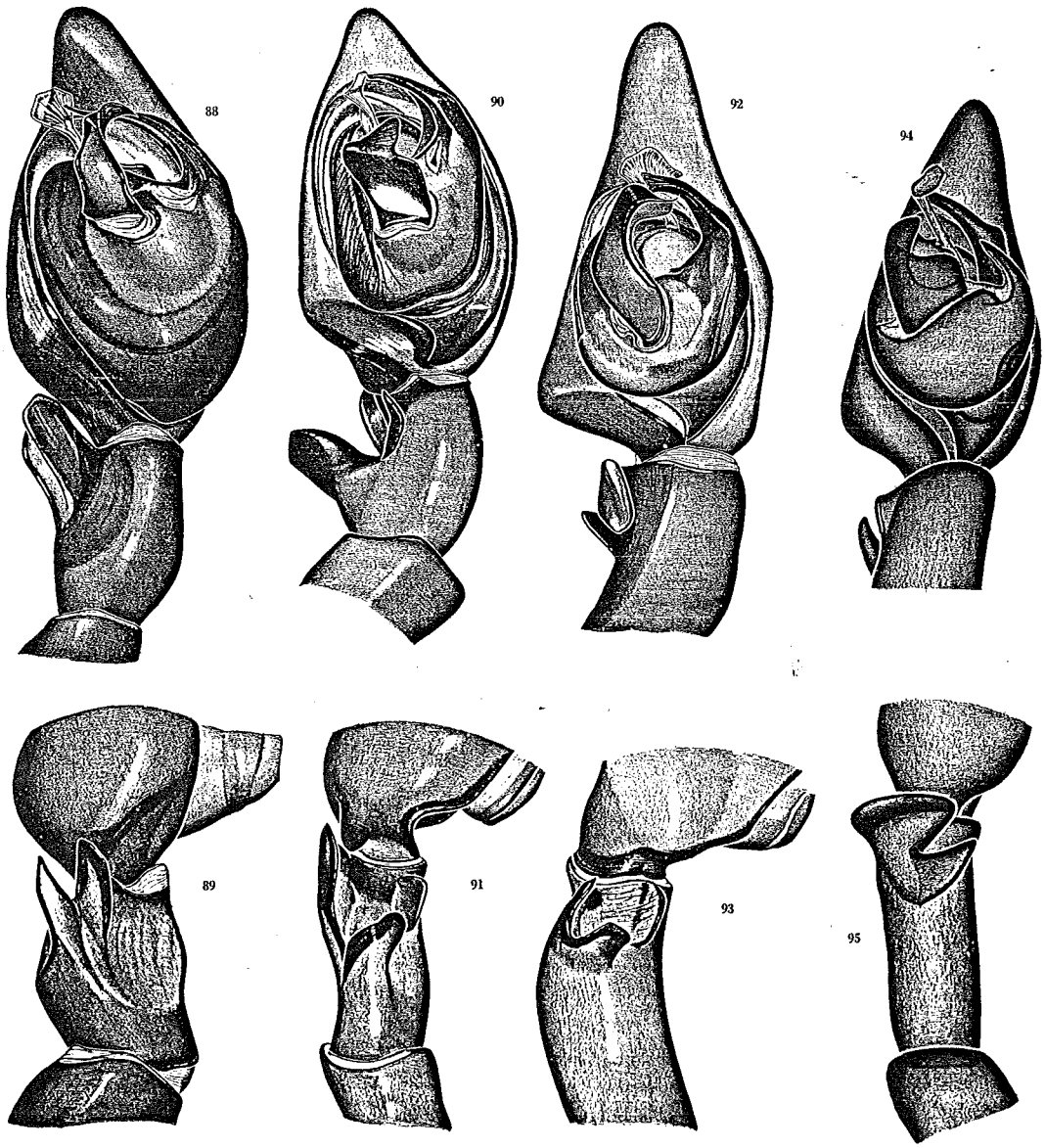
Carapace	length 3.96	width 2.48	
Abdomen	length 4.12	width 2.62	

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	2.81	1.08	3.60	2.34	1.19	11.02
2	2.16	0.98	1.71	1.80	0.90	7.55
3	1.98	0.90	1.26	1.90	0.81	6.85
4	2.70	0.98	1.98	2.81	1.19	9.66

Distal portion of cymbium longer and more slender than *lawrencei*. Median apophysis relatively slender and curving to the embolus (Figs. 92, 93).

Types Holotype female. Otago. Dunedin, Leith Saddle, 3.iv.1952, B. J. Marples. Allotype male. Dunedin, Signal Hill, 1.ii.1958, R. R. Forster (Otago Museum).

Records South Island. Otago. Waitati Valley Road, 30.iv.66, C.L.W. North Road, Dunedin-Waitati, 5.vi.66, C.L.W. Leith Saddle, pitfall, 20.ii.67, 20.iii.67, 2.iv.67, 8.iv.67, 17.iii.68, xii.75, R.R.F. Leith Saddle in litter, 2.iv.69, A. Chapman. Port Chalmers, 304m above Deborah Bay, 13.v.67, R. W. Hutton, C.L.W. Port Chalmers, Long Beach Road, 304m above Deborah Bay, 5.vi.66, C.L.W. Flagstaff, 2.iii.77, R.R.F. Opoho Bush, Cemetery Road, Dunedin, 10.xi.70-17.xi.70, 18.i.71-25.i.71, C.L.W. Opoho Bush, leaf mould, 13.v.70, R.R.F., C.L.W. Sullivans Dam, leaf mould, 20.ii.66, x.65,



Figs. 88-95 Male palps ventral and retrolateral views of tibia. Figs. 88-89 *Toxopsiella parrotti* Figs. 90-91 *Toxopsiella lawrencei* Figs. 92-93 *Toxopsiella orientalis* Figs. 94-95 *Toxopsiella horningi* n. sp.

6.i.63, Sullivans Dam, jar trap, 31.iii.60-2.iv.60, J. Kikkawa. Ross Creek, 29.i.66, J. Sutherland, Ross Dam, 19.xii.65, C.L.W. Frasers Road, Dunedin, 7.v.66, C.L.W. Whare Flat, forest, 4.i.66, C.L.W. Southland. Colac Bay area, R.R.F., C.L.W.

Toxopsiella parrotti Forster

1964 *Toxopsiella parrotti* Forster, Ann. Natal Mus. 16:126.
Figs. 88-89, 100-101

FEMALE

Measurements

Carapace	length 3.06	width 1.91	
Abdomen	length 3.42	width 2.52	

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	1.71	0.83	1.33	1.26	0.78	5.91
2	1.62	0.72	1.08	1.08	0.72	5.22
3	1.62	0.73	0.98	1.44	0.72	5.49
4	2.06	0.90	1.68	2.34	0.93	7.91
Palp	0.81	0.38	0.54	0.00	0.83	2.56

Eyes Ratio of AME.ALE.PME.PLE = 4.6.20.15. AME separated by 5/4 and from PME by 5/4 of the diameter of an AME. PME separated from ALE by 5/4, from PLE by 20/4 and from each other by 16/4. PLE separated by 55/4.

Legs Spines. Leg 1 tibia v.2.2.2, metatarsus v.2.2.2.2. Leg 2 tibia and metatarsus v.2.2.2.2. Superior claws with 8 teeth, inferior with two.

Genitalia Figs. 100-101.

MALE

The male was not known when the species was first described. The palp (Figs. 88, 89) suggests that the species is related to *orientalis*. Only the bifurcate superior tibial process is present and the tibia is much shorter than in *orientalis*. The median apophysis is of the same general form but shorter and more distally situated.

Type Holotype female. Westland. Kokopotuki, xi.1946, A. W. Parrott (Otago Museum).

Records South Island. Nelson. Pelorus Bridge Scenic Reserve, Rimu litter, 14.v.65, M.S.L. Balloon Creek Valley, 760m, leaf mould, 21.ii.46, J. T. Salmon. Mt. Arthur Track, 1064m, leaf mould, 22.ii.46, J. T. Salmon. Mt. Augustus, 820m, Granity, litter 70/116, 4.iii.70, J. S. Dugdale. Fell Peak, Hut area, 1300m, Richmond Range, 13.iii.69, litter 69/109, A. C. Eyles. Fiona Valley, Fiona Hut, at night, 914m, 24.xi.71, J. S. Dugdale. Lake Sylvester, Cobb, 1300m, litter 69/118, 31.iii.69, J. S. Dugdale. 6km south of Bainham, 9.iii.67, C.L.W.

Toxopsiella centralis Forster

1964 *Toxopsiella centralis* Forster, Ann. Natal Mus. 16:119.
Figs. 104-107

FEMALE

Measurements

Carapace	length 3.42	width 2.34	
Abdomen	length 4.14	width 2.52	

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	2.07	1.08	1.71	1.44	0.81	7.11
2	1.89	1.06	1.35	1.35	0.74	6.39
3	1.86	0.90	1.26	1.80	0.74	6.56
4	2.52	0.98	1.98	2.61	0.99	9.08
Palp	0.99	0.34	0.63		0.90	2.86

Colour Carapace dark brown with a median longitudinal pale band from behind the eyes to posterior margin and submarginal pale bands. Abdomen finely mottled with small dark and pale brown patches.

Eyes Ratio of AME.ALE.PME.PLE = 4.5.20.15. AME separated by 2 x and from PME by 5/4 of diameter of an AME. PME separated from ALE by 5/4, from each other by 17/4. PLE separated from PME by 18/4 and from each other by 55/4. MOQ wider behind than in front in ratio 17:11 and wider in front than long in ratio 11:10.

Legs Spines. Leg 1 tibia and metatarsus v.2.2.2.2. Leg 2 tibia v.2.2.2.2.2. metatarsus v.2.2.2.2. Superior claws with 7 teeth, inferior with one.

Genitalia Figs. 106, 107.

MALE

With the discovery of the male of this species it can be associated now with *parrotti* series. The structure of the palp (Figs. 104, 105) and particularly the form of the median apophysis and tibial processes is distinctive.

Type Holotype female. North Island. Desert Road, leaf litter, 17.xii.1948, R. R. Forster (Canterbury Museum).

Records North Island. Wellington. Wainuiomata Road, leaf mould, 19.iv.48, R. K. Dell. Desert Road, 17.xii.48, R.R.F. Waipahu, Tararua, leaf mould, 28.iv.48, C. McCann.

Toxopsiella horningi n.sp.

Figs. 94-95, 102-103

FEMALE

Measurements

Carapace	length 5.5	width 3.9	
Abdomen	length 5.8	width 3.2	

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	3.7	1.9	2.8	2.6	1.3	12.3
2	3.1	1.7	2.3	2.4	1.2	10.7
3	3.2	1.7	2.0	3.2	1.2	11.3
4	3.7	1.8	3.1	4.3	1.7	14.6
Palp	1.8	0.9	1.1		1.5	5.3

Colour Carapace with broken shading. There is a large patch behind the eyes and four narrow bands radiating out from the fovea and a few submarginal lateral patches. Abdomen heavily and evenly shaded with dark brown.

Eyes Ratio of AME.ALE.PME.PLE = 4.6.10.15. AME separated by 5/4 and from ALE by 17/4 of diameter of an AME. PLE separated by 45/4 and from PLE by 15/4 of diameter of AME. PLE separated by 12/4. MOQ wider behind than in front in ratio 65:42 and wider in front than long in ratio 42:40.

Legs Leg 1 tibia v.2.2.2.2, metatarsus v.2.0.2. Leg 2 tibia v.2.2.1.2, metatarsus v.2.2.2.

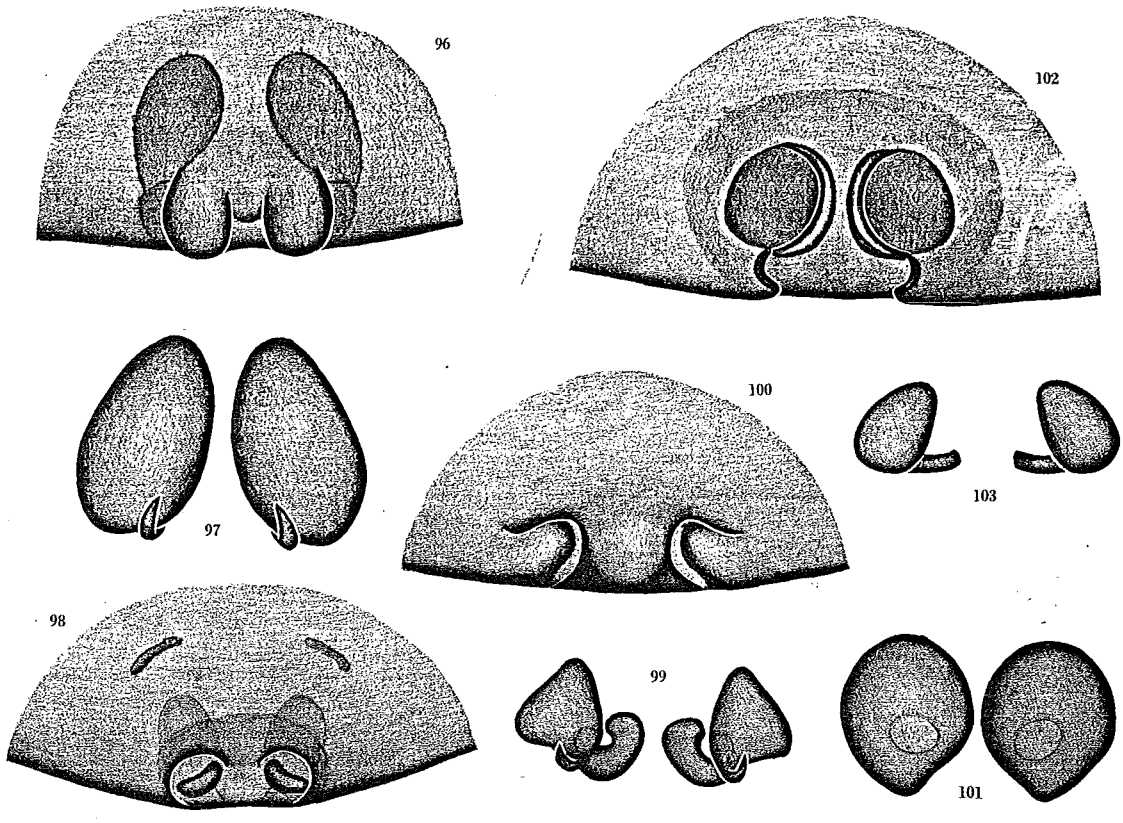
Genitalia Epigynum distinctive (Fig. 102, 103) with a pair of round depressions with the inner margins raised and a pair of blunt spines posteriorly. Receptacula oval and widely separated.

MALE

Measurements

Carapace	length 4.0	width 2.8	
Abdomen	length 4.1	width 2.3	

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	2.7	1.4	2.7	2.4	1.3	10.5
2	2.3	1.3	1.8	2.0	1.0	8.4
3	2.3	1.3	1.5	2.3	0.9	8.3
4	2.9	1.4	2.4	3.4	1.4	11.5
Palp	1.5	0.7	0.9		1.1	4.2



Figs. 96-103 Epigyna and internal genitalia from above Figs. 96-97 *Toxopsiella lawrencei* Figs 98-99 *Toxopsiella orientalis* Figs. 100-101 *Toxopsiella parrotti* Figs. 102-103 *Toxopsiella horningi* n. sp.

Palp as in figs. 94, 95. Tibia relatively long and slender. Median apophysis broad, as wide as long.

Types Holotype female, Snares Island, Punui Bay, in dry skirts of *Poa tennantiana*, 10.xii.1974, C. J. Horning. Allotype male, South side of Ho Ho Bay, in dry skirts of *Poa tennantiana*, 26.ii.1975, D. S. Horning (Ent. Div. DSIR).

Records Snares Islands. West Coast, litter 71/39, 11.iii.71, C. J. Horning. West Coast, dry litter *Olearia lyallii*, 8.ii.71, 26.ix.72, D. S. Horning. Sinkhole Flat, litter 71/42, 11.iii.71, C. J. Horning. Sinkhole Flat, entire plant *Poa tennantiana*, 26.iii.72, D. S. Horning. Snares Island, dry skirts *Poa tennantiana*, 21.xii.74. Punui Bay, dry skirts *Poa tennantiana*, 10.xii.74, 21.xii.74, C.J. Horning. South side Ho Ho Bay, dry skirts *Poa tennantiana*, 23.xii.74, C. J. Horning. South side Ho Ho Bay, dry skirts *Poa tennantiana*, 26.ii.75, C. J. Horning. South side of Ho Ho Bay, among dead leaves of live tussock, 21.xii.72, C. J. Horning.

The pale carapace without a pronounced banded appearance is distinctive. From the genitalia it would seem that the species belongs to the *lawrencei* group.

Toxopsiella alpina Forster

Toxopsiella alpina Forster 1965. Ann. Natal Mus. 16:122. Figs. 108-109

FEMALE

Measurements

Carapace length 3.31 width 2.16
Abdomen length 3.60 width 2.16

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	2.16	1.08	1.91	1.59	0.98	7.72
2	1.98	1.06	1.62	1.44	0.98	7.08
3	1.96	0.96	1.53	1.98	0.98	7.41
4	2.88	1.14	2.34	3.06	0.72	10.14
Palp	1.08	0.54	0.58		0.62	2.82

Colour Cephalothorax uniform pale yellow. Abdomen pale with dark median band down proximal third of dorsal surface followed by six transverse chevrons. Legs pale.

Eyes Ratio of AME.ALE.PME.PLE = 5.5.22.17. AME separated by 6/5 and from PME by 5/5 of diameter of an AME. PME separated from ALE by 4/5, from PLE by 18.5 and from each other by 16/5. PLE separated by 12 x diameter of an AME.

Legs Spines. Legs 1,2 tibia v.2.2.2.2.2, metatarsus v.2.2.2.2. Superior claws with 9 teeth, inferior with one.

Genitalia Figs. 108, 109.

Types Holotype female. Canterbury, Porters Pass, Fog Peak 4000ft., 19.x.1945, R. R. Forster (Canterbury Museum).

Records South Island. Canterbury. Fog Peak, Porters Pass, 1216m., 19.xii.54, R.R.F.

This weakly pigmented species has been found only in the type locality where it is common under loose stones in scree. The male is not known.

Toxopsiella nelsonensis n.sp.
Figs. 110-112

FEMALE

Measurements

Carapace length 3.0 width 1.9
Abdomen length 4.1 width 2.7

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	1.7	0.7	1.4	1.2	0.8	5.8
2	1.6	0.8	1.0	1.2	0.7	5.3
3	1.6	0.7	1.1	1.7	0.6	5.7
4	2.1	0.9	1.7	2.4	1.0	8.1
Palp	0.9	0.5	0.5		0.8	2.7

Colour Carapace with two unbroken dark bands from PLE to posterior margin and a further narrow sinuous band between these bands and outer margin of the carapace. Abdomen mottled brown with indistinct darker chevrons down the posterior half.

Eyes Ratio of AME.ALE.PME.PLE = 4.3.10.14. AME separated by 3/4 and from the ALE by 10/4 of diameter of AME. PME separated by 36/4 and from the PLE by 12/4. PLE separated from each other by 12/4. MOQ wider behind than in front in ratio 14:10 and wider in front than long in ratio 10:9.

Legs Leg 1 tibia v.2.2.2.1, metatarsus v.2.2.2. Leg 2 tibia v.2.2.1.1, metatarsus v.2.2.2.

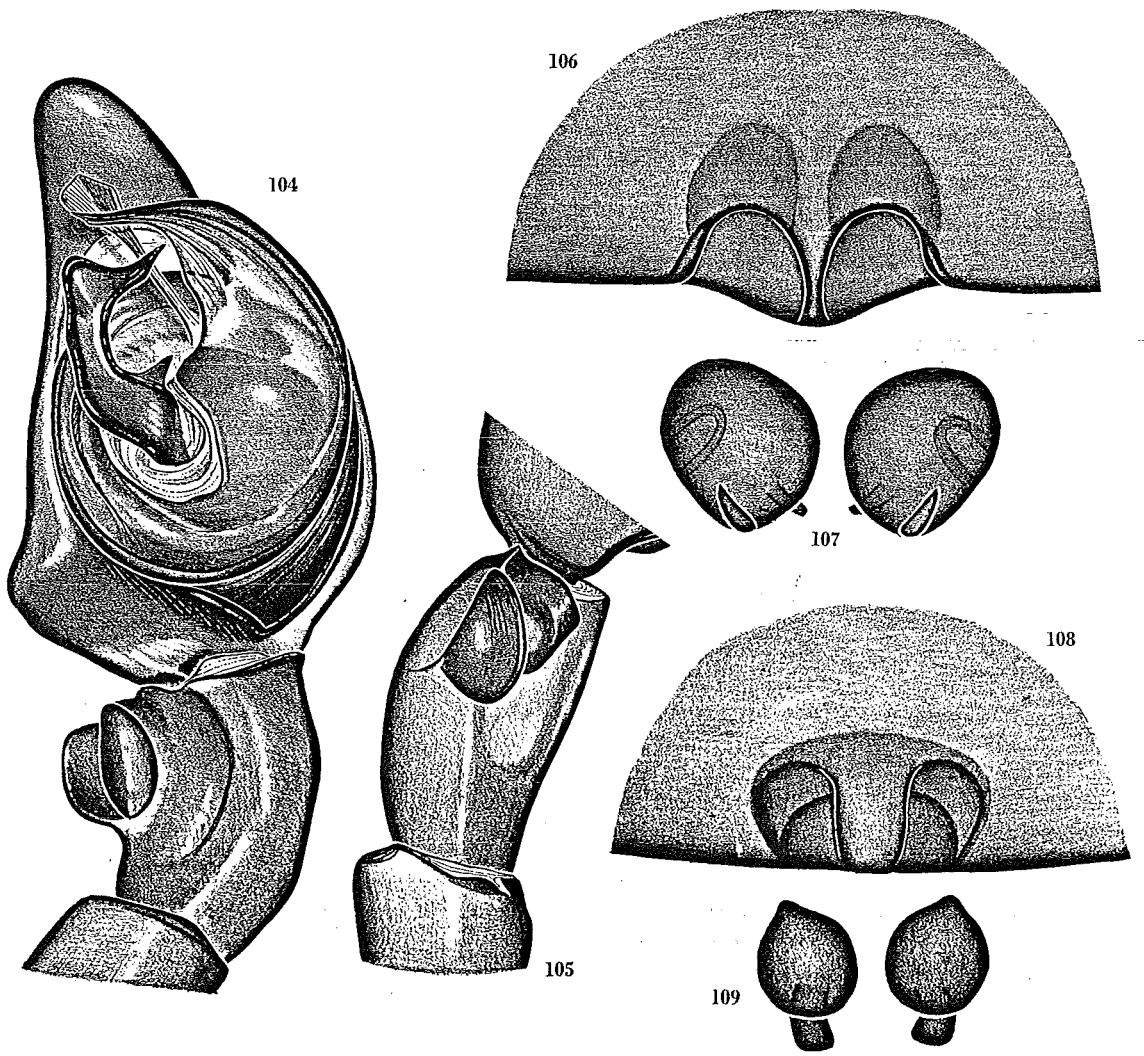
Genitalia Epigynum simple with single median lobe (Fig. 112). Internal genitalia a pair of spherical receptacula.

MALE

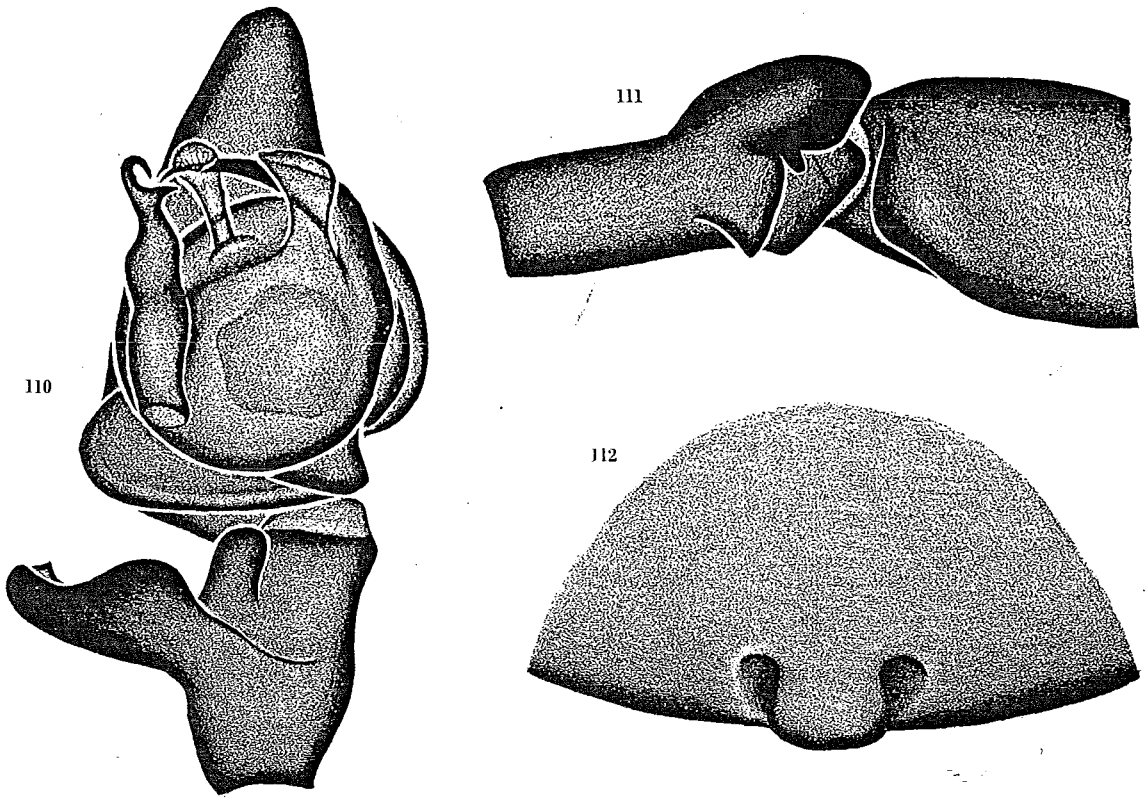
Measurements

Carapace length 2.5 width 1.7
Abdomen length 2.2 width 1.3

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	2.6	0.6	1.3	1.2	0.8	6.5
2	1.4	0.7	1.0	1.0	0.6	4.7
3	1.4	0.6	1.0	1.3	0.6	4.9
4	1.7	0.7	1.5	1.9	0.9	6.7
Palp	0.8	0.4	0.3		0.7	2.2



Figs. 104-107 *Toxopsiella centralis* Fig. 104 Ventral view male palp Fig. 105 Retrolateral tibia male palp Fig. 106 Epigynum Fig. 107 Internal genitalia from above Figs. 108-109 *Toxopsiella alpina* Fig. 108 Epigynum Fig. 109 Internal genitalia from above



Figs. 110-112 *Toxopsiella nelsonensis* n. sp. Fig. 110 Ventral aspect male palp Fig. 111 Retrolateral tibia male palp Fig. 112 Epigynum

Dorsal branch of the tibial process strong (Fig. 111). Embolus spiniform with pronounced tegular plate overlying base. Median apophysis long and slender, distally bifurcate.

Types Holotype female, allotype male. Nelson. Third house, Dun Track, 14.ix.1971, G. W. Ramsay (Ent. Div. DSIR).

Records South Island. Nelson. Marahua, Sandy Bay, wet litter, coastal forest, ix.70, J. S. Dugdale. Wooded Peak, Dun Track Saddle, litter 71/113, 71/108, 14.ix.71, G. W. Ramsay. Mt. Duppa, north Saddle, litter 67/201, 30.iv.67, G. W. Ramsay. Dun Mountain Track, litter, 6.xii.69, G. W. Ramsay. Pelorus Reserve, litter 63/25, 2.x.63, J. I. Townsend. Mt. Murchison, 1420m, litter 71/154, 21.xi.71, J. C. Watt. Lake Sylvester 1300m Cobb, litter 69/127, 31.iii.69, J. S. Dugdale. Lake Sylvester 1450m, plants 69/183, 29.x.69, J. S. Dugdale. Third house, Dun Track, litter 71/114. 14.ix.71, G. W. Ramsay. Whangamoa, Trap 7, 13.x.66. Marlborough. Ship Cove (S16510485)SD, litter 72/269, 27.xi.72-30.xi.72, J. McBurney. Mt. Stokes, 760m, moss 70/148, 12.iii.70, J. I. Townsend. South Ridge, Mt. Robinson, 515m, Kenepuru Head, litter 70/142. 13.iii.70, J. I. Townsend.

This species seems to fall in the *dugdalei* group but the membraneous conductor is well developed and appears to be the functional conductor rather than the bifid tip of the median apophysis.

Toxopsiella australis Forster

Toxopsiella australis Forster 1964. Ann. Natal Mus. 16:126. Figs. 113-116

FEMALE

Measurements

Carapace	length 2.88	width 2.16
Abdomen	length 3.78	width 2.34

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	2.22	0.98	2.06	1.98	0.61	7.85
2	2.21	0.90	1.73	1.87	0.61	7.32
3	2.34	0.90	1.71	2.22	0.81	7.98
4	2.79	0.98	2.41	3.42	1.08	10.68
Palp	0.98	0.36	0.61		0.98	2.93

Colour Carapace similar to *parrotti* but pale submarginal bands wider. Abdomen heavily shaded with black but with pale patches on antero-lateral surfaces.

Eyes Ratio of AME.ALE.PME.PLE = 5.6.20.20. AME separated from each other and PME by the diameter of an AME. PME separated from ALE by 4/5, from PLE by 21/5 and from each other by 15/5. PLE separated by 11 x diameter of an AME.

Legs Spines. Legs 1,2 tibia and metatarsus v.2.2.2.2.2. Superior claws with six teeth. Inferior with three.

Genitalia Figs. 115, 116.

MALE

Measurements

Carapace	length 2.86	width 1.80
Abdomen	length 2.88	width 1.98

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	2.52	0.98	2.34	2.34	0.79	8.97
2	2.51	0.90	1.98	2.32	0.90	8.61
3	2.34	0.90	1.80	2.70	0.89	8.63
4	2.88	0.81	2.52	3.78	1.31	11.30

Palp as in figs. 113, 114. Tibial process stout. Distal portion of embolus relatively long and slender.

Types Holotype male, allotype female. Fiordland, Kakapo Ridge, Thompson Sound, 3400ft. 21.i.1958, R. R. Forster (Otago Museum).

Records South Island. Fiordland. Thompson Sound, Tops above upper camp, 972m, 21.i.58, R.R.F. Thompson Sound, Upper camp, 848m, under logs, 21.i.58, R.R.F. Lake Poteriteri, Princess Range, 10.ii.53-11.ii.53, G. W. Ramsay. Mt. Irene, Saddle with Charles Sound, 1426m, 21.i.53-29.i.53, B. Wisely.

Toxopsiella perplexa Forster

Toxopsiella perplexa Forster 1964. Ann. Natal Mus. 16:130. Figs. 117-120

MALE

Measurements

Carapace	length 1.91	width 1.32
Abdomen	length 1.80	width 1.26

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	1.51	0.62	1.44	1.32	0.46	5.35
2	1.44	0.54	1.13	1.26	0.47	4.94
3	1.31	0.54	1.08	1.44	0.54	4.91
4	1.90	0.63	1.72	2.16	0.87	7.28

Colour Carapace brown with pale submarginal lateral bands and median longitudinal pale band from eyes to posterior margin of the carapace. Abdomen pale brown, lightly shaded with darker reddish brown.

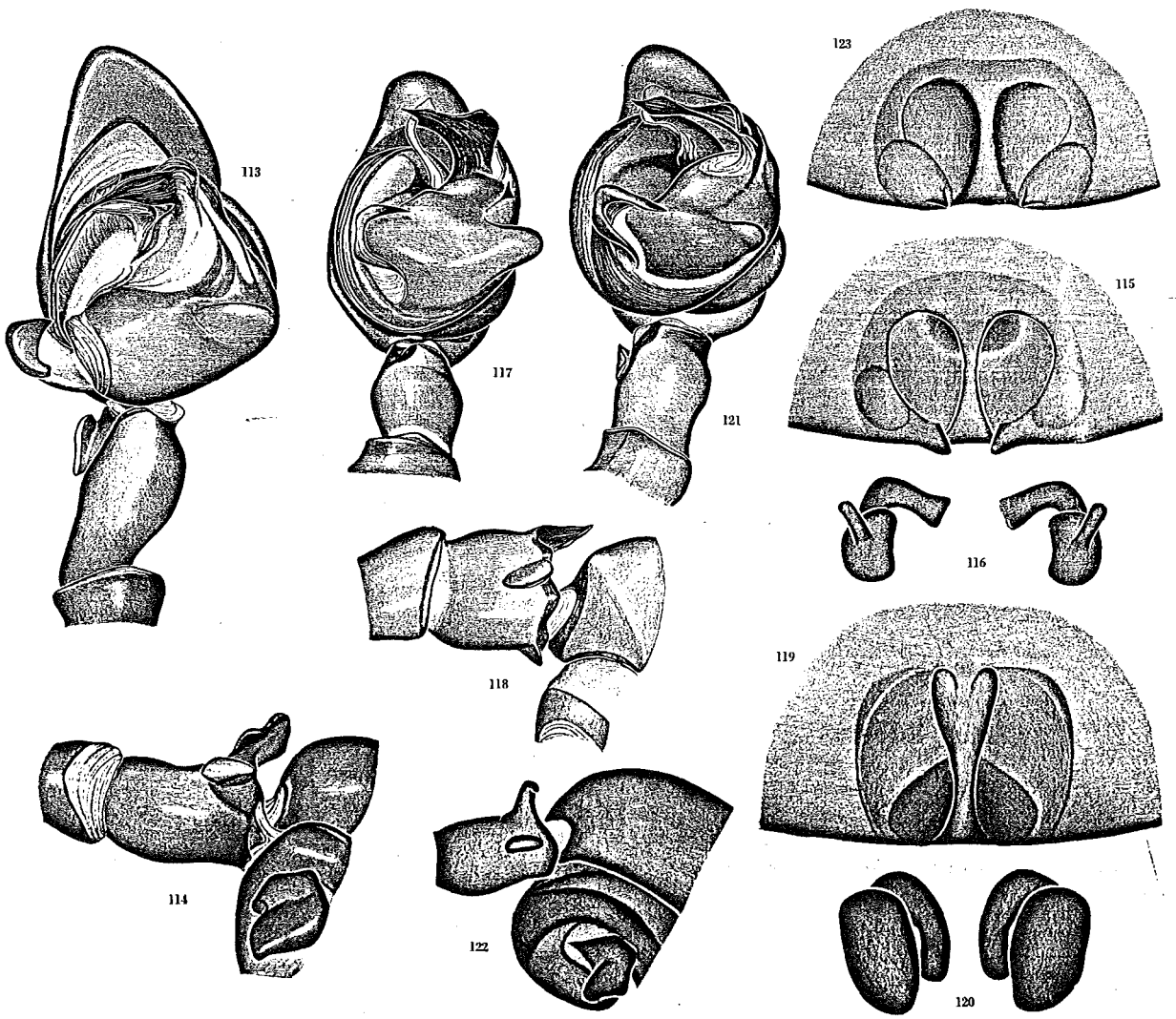
Eyes Ratio of AME.ALE.PME.PLE = 4.5.11.11. AME separated from the PME by 5/4 and from each other by 4/4 of the diameter of an AME. PME separated from ALE by 4/4, from the PLE by 9/4 and from each other by 9/4. PME separated by 29/4.

Legs Legs 1,2 tibia v.2.2.2.2.2, metatarsus v.2.2.2.2. Superior claws with 7 teeth, inferior with 3.

Palp Figs. 117, 118.

FEMALE

The epigynum is directly comparable with the two other related species *minuta* and *australis* but the median ridge is not connected with the margin of the central cavity because the openings from the receptacula are posterior rather than anterior as in the other two species. The internal genitalia have longer ducts directed posteriorly to the openings. (Figs. 119, 120).



Figs. 113-116 *Toxopsiella australis* Fig. 113 Ventral view male palp Fig. 114 Retrolateral tibia male palp Fig. 115 Epigynum Fig 116 Internal genitalia from above Figs. 117-120 *Toxopsiella perplexa* Fig. 117 Ventral view male palp Fig. 118 Retrolateral tibia male palp Fig. 119 Epigynum Fig. 120 Internal genitalia from above Figs. 121-123 *Toxopsiella minuta* Figs. 121-122 Male palp Fig. 123 Epigynum

Type Holotype male. Wellington. Levin, under log, 6.vi.1948, R. R. Forster (National Museum).

Records North Island. Northland. Maungatapere, litter, 72/43, 20.i.72, G. W. Ramsay. Moerewa, Bay of Islands, leaf mould, 21.vii.48, H. Allen. Auckland. Waituhi, near Taumaranui, 10.i.67, R.R.F., D.R.F. Taranaki, Dawson Falls, Mt. Egmont, 1094m, v.54, M. P. Buchler. Feilding, leaf mould, 16.i.52, R.R.F. Tararua Park Forest, bush near Holdsworth Lodge, pitfall, 15.viii.72, 19.xi.72, C.L.W. Tararua Park Forest, foot of Mt. Holdsworth, 18.vii.72, C.L.W. Tararua Ranges, beaten from foliage, 1.xii.52, B. A. Holloway. Mangareia, 5.x.46, 28.vii.47, C.L.W. Orongorongo, moss, 69/158, 18.ix.69, J. C. Watt. South Island. Marlborough. Head of Fabians Valley, 912m, 23.x.63, litter J. I. Townsend.

Toxopsiella minuta Forster

Toxopsiella minuta Forster 1964. Ann. Natal Mus. 16:129. Figs. 121-123

FEMALE

Measurements

Carapace	length 1.73	width 1.26	
Abdomen	length 2.41	width 1.52	

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	1.21	0.54	1.08	0.98	0.38	4.19
2	1.19	0.54	0.90	0.91	0.39	3.93
3	1.20	0.52	0.81	1.08	0.39	4.00
4	1.51	0.54	1.21	1.51	0.54	5.31
Palp	0.54	0.27	0.36		0.58	1.75

Colour Carapace yellow-brown with a broad dark-brown band down each mid-lateral surface. Abdomen grey with numerous paler spots.

Eyes Ratio of AME.ALE.PME.PLE = 5.5.18.16. AME separated from PME and each other by 6/5 of diameter of AME. PME separated from ALE by 5/5, from PLE by 19/5 and each other by 15/5. PLE separated by 10 x diameter AME. MOQ wider behind than in front in ratio 82:51 and longer than wide in front in ratio 53:51.

Legs Spines. Leg 1,2 tibia and metatarsus v.2.2.2.2.2.

Epigynum Fig. 123.

MALE

Dorsal tibial process more slender than in other species. Tegular processes not strongly developed (Figs. 121, 122).

Type Holotype female. Nelson. Upper Takaka, leaf litter, 17.v.1953, C. Holms (Otago Museum).

Records South Island. Nelson. Takaka Hill, under logs, 10.v.50, J. Marston. Karamea Coast, 28.ix.66, R.R.F. Buller Gorge, in bush, 14.viii.63, Rahu Saddle, 668m, moss 65/330, 1.vi.65, J. I. Townsend. Surveyors Creek, Karamea, litter 70/156, 13.viii.70, J. I. Townsend. Bullock Creek, Punakaiki, 29.ix.66, R.R.F., C.L.W. West Inangahua State Forest, 18.iv.72, J. McBurney. Between Brighton and Charleston, 27.ix.66, R.R.F., C.L.W. Wallaby Creek, Mawhera State Forest, 19.iv.72, 20.ix.72, J. S. Dugdale. Mawhera State Forest, 15km south east of Ngahere, 11.xi.71, J. S. Dugdale. Mt. Hercules, 27.ix.64, R.R.F., C.L.W. Waiho, 27.ix.66, 29.ix.66, R.R.F., C.L.W. Franz Josef, leaf mould, 23.i.71, R.R.F., L.M.F. Haast River Flat, leaf mould, 11.vii.69, R. K. Dell. Taumaka, Open Bay Islands, pitfall, 13.i.71, 28.i.71, 31.i.71, M. E. Miller. Jacksons Bay, leaf mould, 16.iii.66, R.R.F. Fiordland, Aparina River, above junction with Waterloo Creek, beech forest, 27.iv.68, J. I. Sutherland.

Toxopsiella medialis Forster

Toxopsiella medialis Forster 1964. Ann. Natal Mus. 16:116. Figs. 124-127

FEMALE

Measurements

Carapace	length 2.97	width 1.80	
Abdomen	length 3.78	width 2.97	

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	1.80	0.81	1.53	1.26	0.72	6.12
2	1.62	0.81	1.08	1.26	0.63	5.40
3	1.62	0.72	0.99	1.44	0.61	5.38
4	2.07	0.76	1.71	2.34	0.90	7.78
Palp	0.90	0.36	0.45		0.90	2.61

Colour Similar to *dugdalei* with pale submarginal and median bands on the cephalothorax, abdomen brown.

Eyes Ratio of AME.ALE.PME.PLE = 4.5.20.13. AME separated by 2 x and from PME by 6/4 of diameter of an AME. ALE separated from PME by 4/4 and from PLE by 13/4. PME separated from each other and from PLE by 15/4. PME separated by 53/4. MOQ wider behind than in front in ratio 19:14 and wider in front than long in ratio 14:12.

Legs Spines. Leg 1,2 tibia and metatarsus v.2.2.2.2. Superior claws with 8 teeth, inferior with one.

Genitalia Figs. 126, 127.

MALE

Measurements

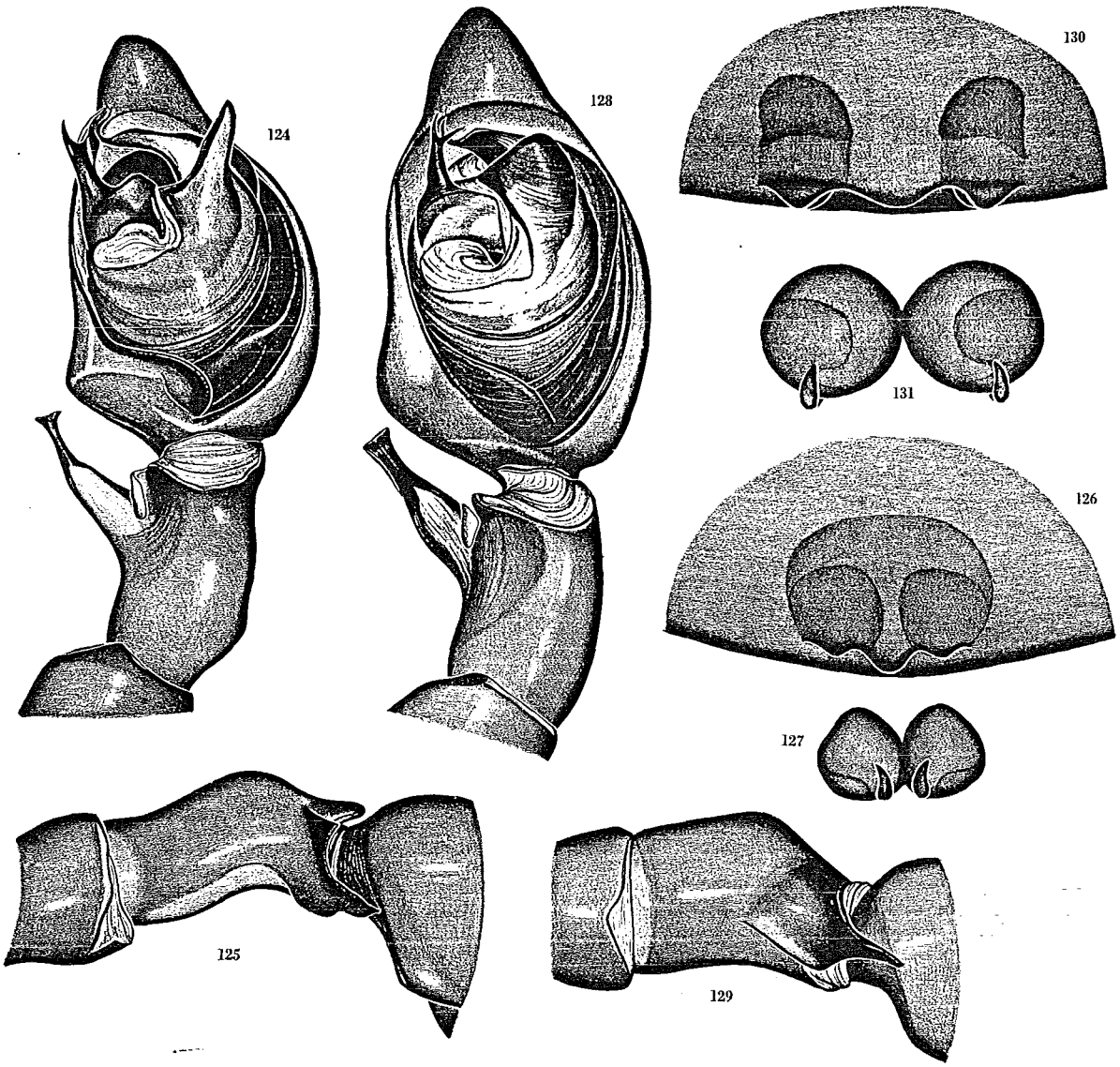
Carapace	length 2.81	width 1.73	
Abdomen	length 2.98	width 1.96	

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	2.16	0.79	2.06	1.63	0.86	7.80
2	1.68	0.79	1.73	1.32	0.66	6.18
3	1.62	0.71	1.11	1.51	0.61	5.56
4	2.08	0.72	1.86	1.84	0.86	7.36

Tibial process of palp broader than in *dugdalei* with a dorsal projection (Fig. 125). Tegular process prominent, median apophysis stronger than in *dugdalei* (Fig. 124).

Types Holotype female. Days Bay, Wellington, from leaf litter, 30.xi.1947, R. R. Forster (National Museum).

Records North Island. Mt. Maungapohatu, 762m, litter 71/33. 3.iii.71, J. I. Townsend. Panekiri Bluff, 1154m, leaf mould, 12.xii.46, R.R.F. Maruiana Arm, Waikaremoana, leaf mould, 11.xii.46, R.R.F. Wellington. Rimutaka District, Beech and Kamahi leaf mould, 10.viii.46, A. J. Healy. Judd Ridge, Tararua Range, leaf mould, 12.i.54, B. A. Holloway. Stokes Valley, leaf mould, 10.i.48, 10.viii.49, R.R.F. Butterfly Creek, 2.vi.46, R.R.F. Fort Hill Bush, Karori, leaf mould, 22.i.47, R.R.F. Johnsons Hill, 22.v.46, B. Ramsay. South Island. Nelson, Aniseed Valley, 1.xii.53, B. J. Marples. Upper Takaka, leaf mould, 17.v.53, C. Holmes. Riwaka, forest litter, 5.x.70, J. S. Dugdale. Lake Rotoiti, moss, 27.vii.65, J. I. Townsend. Waipuna, Grey Valley, litter, 71/97, 2.iv.71, J. S. Dugdale. South Glenhope, 2.iv.65, litter, N. A. Walker. Marlborough. Avon Valley, litter, 2.vii.64, J. I. Townsend.



Figs. 124-127 *Toxopsiella medialis* Fig. 124 Ventral aspect male palp Fig. 125 Retrolateral tibia male palp Fig 126 Epigynum Fig. 127 Internal genitalia from above Figs. 128-131 *Toxopsiella dugdalei* Fig. 128 Ventral aspect male palp Fig. 129 Retrolateral tibia male palp Fig. 130 Epigynum Fig. 131 Internal genitalia from above.

Toxopsiella dugdalei Forster

Toxopsiella dugdalei Forster 1964. Ann. Natal Mus. 16:123. Figs. 128-131

FEMALE

Measurements

Carapace	length 2.88	width 1.98	
Abdomen	length 2.70	width 1.71	

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	1.71	0.90	1.44	1.17	0.63	5.85
2	1.62	0.81	1.08	1.08	0.63	5.42
3	1.53	0.81	1.07	1.44	0.56	5.41
4	1.98	0.90	1.62	2.23	0.90	7.63
Pedi-palp	0.81	0.36	0.54		0.81	2.52

Colour Carapace dark brown with a pale band along each sublateral margin and a pale area behind the eyes extending back as a narrower band to the posterior margin. Abdomen mottled brown.

Eyes Ratio of AME.ALE.PME.PLE = 4.5.21.12. AME separated from PME and each other by 6/4 diameter of an AME. ALE separated by 21/4 and PLE by 61/4. MOQ twice as wide behind as in front and as long as wide in front.

Legs Spines. Legs 1.2 tibia and metatarsus v.2.2.2.2. Legs 3,4 tibia v.2.2. metatarsus v.2.2.2. Superior claws with 7 teeth, inferior with one.

Genitalia Figs. 130, 131.

MALE

Measurements

Carapace	length 3.15	width 2.07	
Abdomen	length 2.52	width 1.62	

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	2.34	0.99	2.16	2.16	0.90	8.55
2	1.89	0.90	1.53	1.62	0.72	6.66
3	1.80	0.81	1.17	1.71	0.72	6.21
4	2.34	0.90	1.71	2.34	0.98	8.36

Tibial processes broad at base but spinous distally (Fig. 129). Median apophysis forked distally. There is a long and slender membraneous conductor but the tip of the embolus appears to rest in the fork of the median apophysis which is apparently the functional conductor (Fig. 128).

Types Holotype female, allotype male. Canterbury. Junction of Casey and Poulter Rivers, leaf litter, J. S. Dugdale (Canterbury Museum).

Records South Island. Nelson. Stoney Creek, West Inangahua State Forest, B.F.U.P. litter 72/144, 18.iv.72, J. S. Dugdale. Stoney Creek, West Inangahua State Forest, B.F.U.P., moss 72/168, 19.ix.72, J. S. Dugdale. West Inangahua State Forest B.F.U.P. litter 72/149, 18.iv.72, J. S. Dugdale. Fletchers Creek, West Inangahua State Forest, B.F.U.P. moss and litter 72.183, 19.ix.72, J. S. Dugdale. Tawhai State Forest, 194 Reefton B.F.U.P. moss 72/170, 18.ix.72, J. C. Watt. Tawhai State Forest, B.F.U.P. litter 72/134, 12.iv.72, J. McBurney. Tuttys Plateau, Mawhera State Forest B.F.U.P. litter 72/145, 19.iv.72, J. S. Dugdale. Tuttys Plateau, Mawhera State Forest B.F.U.P. litter 72/164, 12.vii.72, J. S. Dugdale. Maruia Saddle, Murchison, 570m, moss, 2.vi.65, J. I. Townsend. Kiwi Hut, Lewis Pass, 14.xi.49, R.R.F. Riordans Bridge, Lewis Pass Road, 16.viii.66, C.L.W. 5 km east of Kumara, 29.ix.66, R.R.F., C.L.W. Paringa River, 27.ix.66, R.R.F., C.L.W. Mt. Dewar, Paparoa Range, 1697m, mat plants 69/238, 2.xii.69, J. I. Townsend.

Plectophanes Bryant

Plectophanes Bryant 1935. Rec. Cant. Mus. 4:81. Forster 1964. Ann. Natal Mus. 16:139. Lehtinen 1967. Ann. Zool. Fenn. 4:259.

Carapace more than twice as long as wide with the anterior portion carrying the eyes constricted and overhanging the chelicerae (Figs. 35, 36, 132). Eight eyes with the posterior rows much larger than anterior. Sternum elongate, twice as long as wide. Chelicerae short, vertical with prominent lateral boss. Two teeth on each margin. First three pairs of legs prograde with double row of spines on ventral surfaces of both tibiae and metatarsi. Three claws, superior with from 7-9 teeth, inferior from 1-3. No scopula or claw tufts. Tarsal organ as in Fig. 5. No plumose hairs. Double row of trichobothria on tibiae and a single row on metatarsi and tarsi. Bothrium as in Fig. 1. Trochanters not notched. Epigynum of varied form (Figs. 136, 141) but relatively simple. Internal genitalia a single pair of receptacula and short ducts. Male palp with short, stout embolus, well developed median apophysis and strong tegular spine but lacking a conductor. Tibial processes well developed (Fig. 135). Female palp with strong toothed claw. Spinnerets in a compact group. Anterior spinnerets conical and contiguous. Colulus well developed as a setose lobe. Type species *Plectophantes frontalis* Bryant 1935.

The elongate body form, modified eye projection and prograde legs are adaptations related to the habits of these spiders which live in narrow tunnels in twigs and small branches. While awaiting prey the tip of the head projects from the retreat and it is probable that the eyes detect movement. Once suitable prey approaches within a few centimetres the spider moves out from the tunnel to capture it and rapidly returns. The eggsac, a loosely wrapped spherical cocoon is placed at the rear of the burrow. The outer lip of the tunnel is lined with silk, which makes the occupied holes easily detected, but no snare or tripline is constructed.

Bryant (1935) when establishing the genus placed it in the Plecteurinae led perhaps by the insignificant epigynum in the female of the species she examined to conclude that the spider was haplogyne.

In my revision of the Toxopidae (1964) I mistakenly associated *Cycloctenus*, *Toxopsiella* and *Plectophanes* with *Toxops* and *Laestrygones*. The latter two genera are true toxopids with a complex tracheal system but the first three genera all share a simple abdominal tracheation with four unbranched trunks. The inclusion of *Plectophanes* was influenced by the possible relationship of the genus to *Toxopsiella* and *Cycloctenus*. Lehtinen (1967)

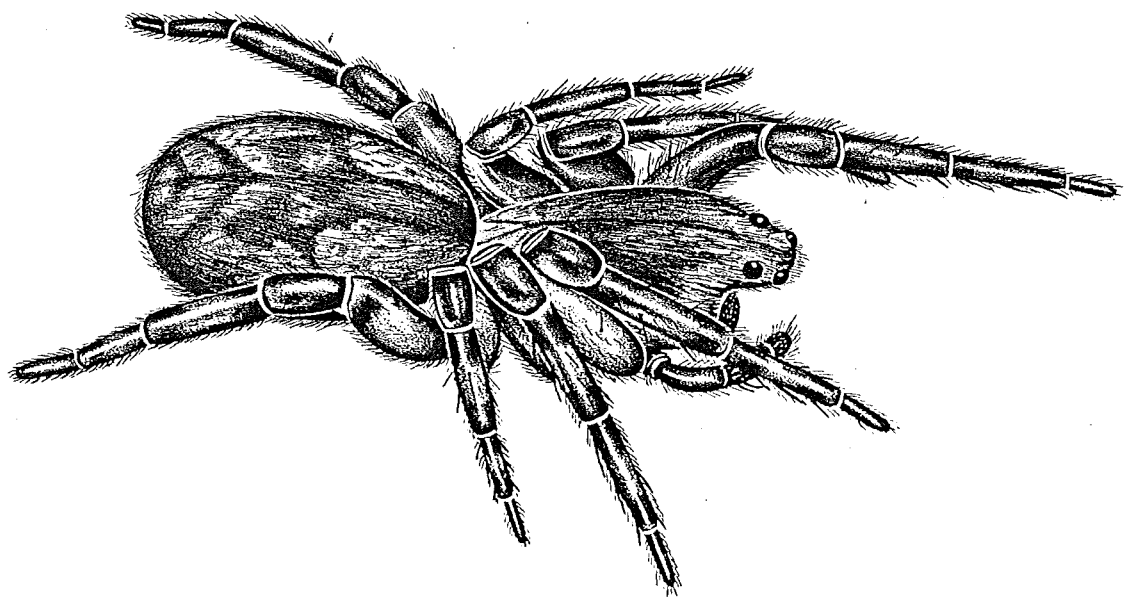


Fig. 132 *Plectophanes frontalis* female

subsequently dismissed this relationship and suggested that *Plectophanes* might be related to *Zearchaea. Zearchaea* however is a typical mecysmaucheniid, a uniform family which on all counts is restricted to the haplogyne stage of phylogeny. *Plectophanes* by contrast is an advanced entelegyne and while the mere fact that one genus is haplogyne and the other entelegyne does not preclude them from being part of a single phylogeny and associated at family level there are no shared derived characters which could be cited to substantiate this argument.

While I am not dogmatic in asserting the affinity of *Plectophanes* with *Cycloctenus* and *Toxopsiella* I cannot at present see any other more plausible relationship.

At first glance the male genitalia are much more complex in *Plectophanes* but they are still directly comparable to the other two genera. There is a typical median apophysis, a short stout embolus and an extreme development of the spinous tegular process also found in some species of *Cycloctenus.* The main difference is the further development of the tegulum into a complex structure, the purpose of which is not clear. A further difference is shown in the loss of the membraneous conductor but with the extremely short embolus this is not surprising. The tibial processes are directly comparable. Perhaps the most convincing character suggesting the association is the relative sizes of the anterior and posterior eyes and this fact that the large posterior eyes are placed in two pairs and the anterior row is strongly recurved. However the structure of the eyes (Homann 1971) could indicate that these gross comparisons are without real meaning. It was hoped that an examination of microstructure under SEM might throw some more light on the relationship of the genus but the evidence drawn from the morphology of the tarsal organ, trichobothria and hairs does little more than fail to produce any further reason why they should not be associated with the cycloctenids.

Plectophanes frontalis Bryant 1935

Plectophanes frontalis Bryant 1935. Rec. Cant. Mus. 4:82. Parrott 1946. Rec. Cant. Mus. 5(2):56. Forster 1964. Ann. Natal Mus. 16:139.

Figs. 35, 36, 132, 134-137.

FEMALE

Measurements

Carapace	length 4.32		width 1.80
Abdomen	length 4.32		width 1.80

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	1.98	1.08	1.89	1.89	0.64	7.48
2	2.07	1.08	1.71	1.80	0.75	7.41
3	1.71	0.81	1.26	1.29	0.72	5.79
4	2.07	1.08	1.71	1.35	0.63	6.84
Palp	0.99	0.45	0.54		0.90	2.88

Colour Carapace uniform dark brown. Abdomen with dark brown reticulate markings on the dorsal surface which enclose white patches.

Eyes Ratio AME.ALE.PME.PLE = 5.5.12.13. AME situated on ventral surface of eye region. AME separated by 4/5 and from PME by 7/5 of diameter of an AME. ALE and PME subcontiguous. PME separated from PLE by 9/5 and from each other by 16 5 of diameter of an AME. MOQ wider behind than in front in ratio of 42:31 and longer than wide in front in ratio of 34:31.

Carapace Level in profile. More than twice as long as wide, narrowing anteriorly to form a narrow projection bearing the eyes which overhangs the chelicerae. Fovea distinct and longitudinal, situated at two thirds.

Chelicerae Short and stout, directed vertically with strong lateral boss. Two strong teeth on each margin.

Maxillae Parallel with outer margins sloping slightly outwards so that they are wider at tip where width is equal to half of length.

Labium Widest medially. Longer than wide in ratio 9:5. Anterior margin straight.

Sternum Shield shape, broadly truncate anteriorly, longer than wide in ratio of 18:11. Terminated sharply between coxae 4.

Legs First leg tibia v.2.2.2, metatarsus v.2.2.2.2. Second leg tibiae v.2.2.2.2.2.2, metatarsi v.2.2.2.2. Trichobothria. First leg. Tibia 1.1.1, metatarsus, tarsus 1.1.1.1. Second leg. Tibia 2.2.2.1.1.1, metatarsus, tarsus 1.1.1.1.1. Third leg. Tibia 2.2.2.1.1.1, metatarsus 1.1.1.1, tarsus 1.1.1.1.1. Fourth leg. Tarsus 1.1.1.1. Superior claws with 7 teeth. Inferior claw with two slender curved teeth at base.

Palp Tibia with single row of three trichobothria. Claw with three teeth.

Abdomen Almost 2½ times as long as wide, clothed with short hairs. Colulus distinct. Form of epigynum as in Fig. 136. Single pair of ovoid spermathecae. (Fig. 137).

MALE

Measurements

Carapace	length 3.78		width 1.98
Abdomen	length 2.88		width 1.44

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	2.52	1.20	2.16	2.16	0.90	8.94
2	2.62	1.08	1.91	2.16	0.98	8.75
3	1.98	0.90	1.44	1.62	0.93	6.87
4	2.16	0.98	1.80	1.62	0.83	7.39

Palp The form of the palp is shown in Figs. 134, 135.

Type Holotype female. Wellington. Waikanae, 19.i.1923, G. Archey (Canterbury Museum). Paratypes, two immature females, Wellington, 3.viii.1922, Museum of Comparative Zoology, Harvard University.

Records Mt. Egmont, 3000ft, 23.ii.67, C.L.W. Foot of Mt. Egmont, 23.iii.69, R.R.F., C.L.W. Manunui, 25.ii.67, C.L.W. Hen Island, v.1949, E. G. Turbott. Wellington, Karori, 22.i.47, R.R.F. Wairarapa, Solway, R. R. Hutton. Mangareia, 12.ix.65, C.L.W. Mangareia, 3.iii.67, C.L.W.

Plectophanes pilgrimi Forster

Plectophanes pilgrimi Forster 1964. Ann. Natal Mus. 16:142.

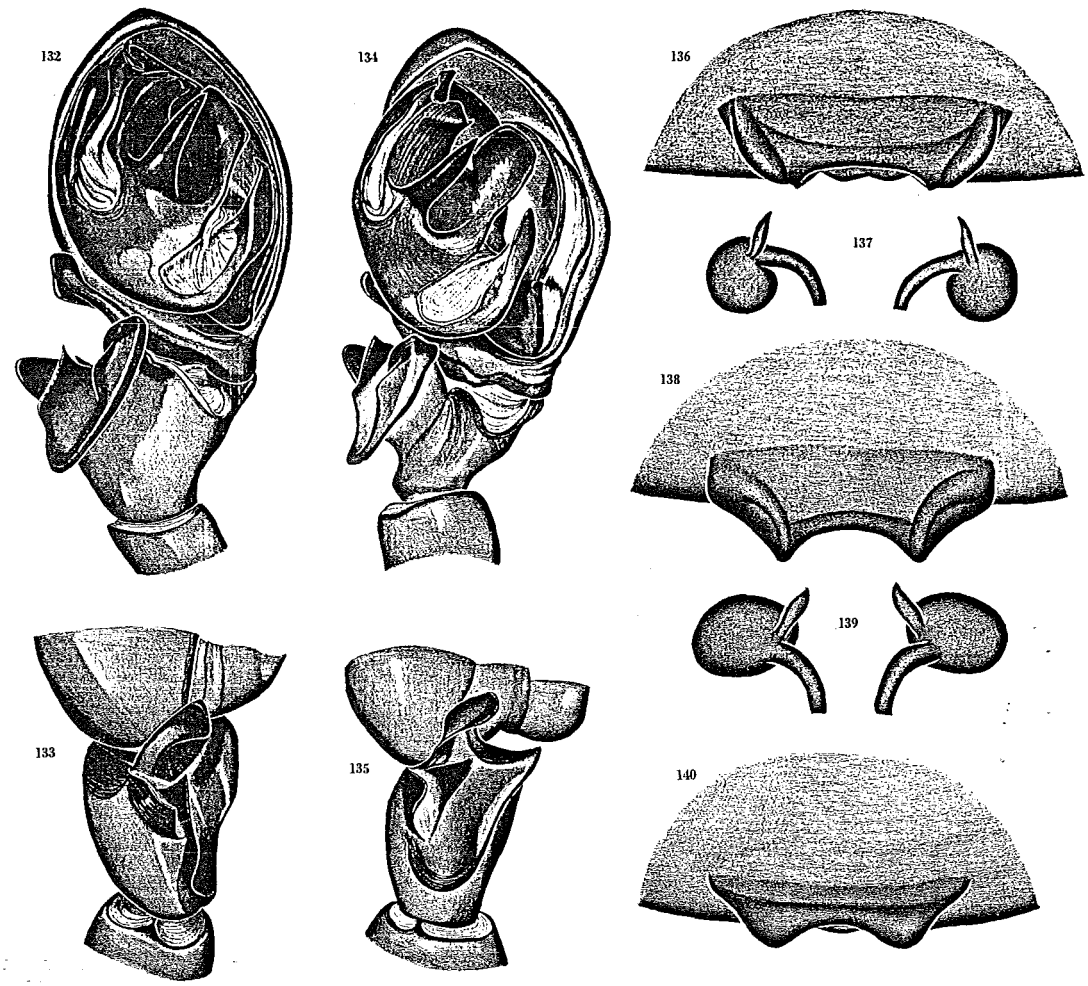
Figs. 138, 139

FEMALE

Measurements

Carapace	length 5.04		width 2.26
Abdomen	length 5.04		width 2.92

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	3.06	1.44	2.16	2.43	0.82	9.91
2	2.62	1.26	2.05	2.05	0.83	8.81
3	1.98	1.08	1.62	1.54	0.72	6.94
4	2.34	1.26	1.98	1.62	0.72	7.92
Palp	1.26	0.63	0.63		1.08	3.60



Figs. 132A-133 *Plectophanes* sp. Dunedin, Male palp Figs. 134-137 *Plectophanes frontalis* Fig. 134 Ventral aspect of male palp Fig. 135 Retrolateral tibia male palp Fig. 136 Epigynum Fig. 137 Internal genitalia from above Fig. 138-139 *Plectophanes pilgrimi* Fig. 138 Epigynum Fig. 139 Internal genitalia from above Fig. 140 *Plectophanes* sp. Balclutha

Colour Carapace uniform brown. Abdomen creamy white with a median longitudinal band on the dorsal surface which expands posteriorly to form four indistinct chevrons.

Eyes Ratio of AME.ALE.PME.PLE – 5.6.18.17. AME separated by 6/5 and from PME by 7/5 of diameter of an AME. PME separated from ALE by 9/5, from PLE by 11/5 and from each other by 10/5. PLE separated by 7 times diameter of an AME. MOQ as long as wide in front but wider behind than in front in ratio of 7:5.

Legs Spines as in *frontalis*.

Epigynum As in Figs. 138, 139.

Type Holotype female. Canterbury, Reserve Bush. xi.1957, R. Pilgrim (Canterbury Museum).

Records Westland. Punakaiki, 27.ix.66, R.R.F.

Plectophanes alta Forster

Plectophanes alta Forster 1964. Ann. Natal Mus. 16:143. Figs. 141-142

FEMALE

Measurements

Carapace	length 2.24	width 1.08
Abdomen	length 2.46	width 1.44

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	1.26	0.54	0.98	0.98	0.41	4.17
2	0.98	0.46	0.81	0.81	0.39	3.45
3	0.83	0.44	0.54	0.62	0.31	2.74
4	0.98	0.54	0.72	0.69	0.36	3.29
Palp	0.54	0.29	0.27		0.51	1.61

Colour Carapace uniform dark brown. Abdomen shaded with dark brown interspersed with pale spots. A row of five pairs of pale oblique bands down the median surface form five indistinct chevrons.

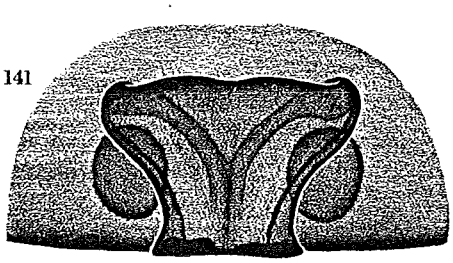
Eyes Ratio of AME.ALE.PME.PLE = 3.6.12.10. AME separated from PME by 5/3 and from each other by 3/3 of diameter of an AME. PME separated from ALE by 5/3, from PLE by 8/5 and from each other by 5/3. PLE separated from each of diameter of an AME.

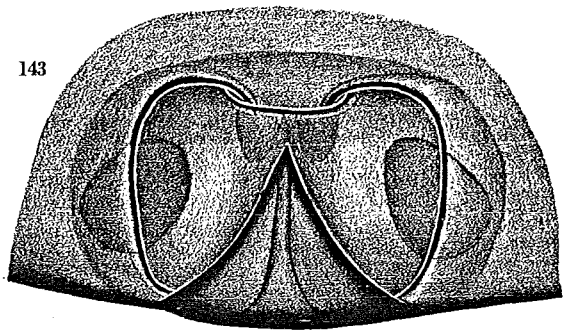
Legs Spines. Legs 1,2 tibia and metatarsus v.2.2.2. Superior claws with 9 teeth, inferior with one.

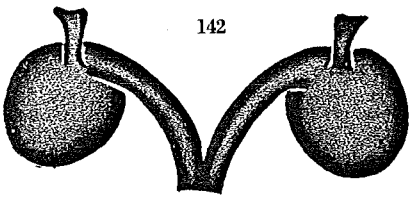
Genitalia Figs. 141, 142.

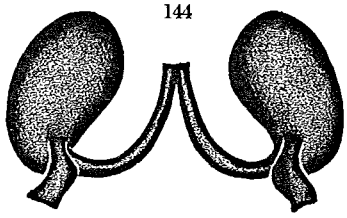
Type Holotype female. Fiordland. Thompson Sound, 2,800ft in moss, 19.i.1958, R. R. Forster. (Otago Museum).

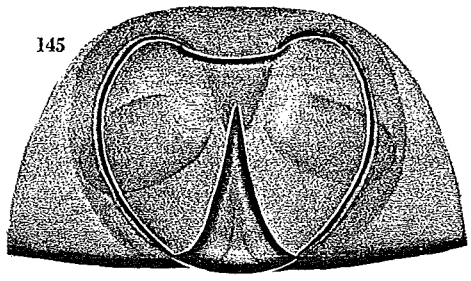
Records Fiordland. Cascade Creek, 15.ii.66, R.R.F. Wilmot Pass, 2100ft, 17.i.70, G. W. Ramsay.











Figs. 141-142 *Plectophanes alta* Fig. 141 Epigynum Fig. 142 Internal genitalia from above Fig. 143 *Plectophanes hollowayi* epigynum Figs. 144-145 *Plectophanes archeyi* Fig. 144 Internal genitalia from above Fig. 145 Epigynum

Plectophanes hollowayae Forster

Plectophanes hollowayi Forster 1964. Ann. Natal Mus. 16:145. Fig. 143

FEMALE

Measurements

Carapace	length 3.96	width 1.73
Abdomen	length 3.24	width 1.89

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	1.91	1.08	1.62	1.62	0.72	6.95
2	1.80	0.96	1.44	1.62	0.63	6.45
3	1.51	0.84	1.08	1.26	0.54	5.23
4	1.80	0.92	1.39	1.35	0.54	6.00
Palp	0.98	0.45	0.54		0.81	2.78

Colour Carapace uniform reddish brown. Abdomen cream with four faint brown chevrons on the dorsal surface and a number of white patches.

Eyes Ratio of AME.ALE.PME.PLE = 6.7.17.17. AME separated from PME by 5/6 and from each other by 5/5 of diameter of an AME. PME separated from PLE by 12/6, from ALE by 4/6 and from each other by 15/6. PLE separated by 7 times diameter of an AME. MOQ wider behind than in front in ratio of 76:49 and wider in front than long in the ratio of 49:46.

Epigynum As in Fig. 143.

Types Holotype female, Solomon's Island, South West Stewart Island, 25.i.1955, R. K. Dell, B. A. Holloway (National Museum).

Plectophanes archeyi Forster

Plectophanes archeyi Forster 1964. Ann. Natal Mus. 16:144. Figs. 144-145

FEMALE

Measurements

Carapace	length 2.88	width 1.53
Abdomen	length 3.06	width 1.62

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	1.62	0.90	1.39	1.44	0.59	5.94
2	1.53	0.81	1.26	1.34	0.54	5.48
3	1.26	0.63	0.90	0.98	0.43	4.20
4	1.44	0.72	1.19	0.90	0.43	4.68
Palp	0.82	0.44	0.44		0.72	2.42

Colour Carapace uniform dark brown. Abdomen pale yellow with scattered dark areas down the dorsal surface which form broken chevrons separated by small white patches.

Eyes Ratio of AME.ALE.PME.PLE = 6.4.15.11. AME separated from PME by 6/6 and from each other by 11/6 of the diameter of an AME. PME separated from ALE by 7/6, from the PLE and from each other by 10/6. PLE separated by 35/6.

Legs Spines. Legs 1.2 tibia and metatarsus v.2.2.2. Superior claws with 8 teeth, inferior with 2.

Genitalia Figs. 144, 145.

Type Holotype female, Canterbury, Kennedy's Bush, Christchurch, 26.vi.1949, R. R. Forster (Canterbury Museum).

Records Canterbury, Kaituna Valley, Banks Peninsula, 2.xi.66, R.R.F.

INCERTAE SEDIS

Anaua Forster

Anaua Forster 1970. Otago Mus. Bull. 3:62.

Anaua unica Forster 1970.

Figs. 2, 146-149

I described this small flattened laterigrade spider from a single female collected at Lake Te Anau. On the basis of the presence of three claws, a reduced claw tuft and the relatively wide tracheal spiracle which suggested a complex tracheal system I placed the genus in the Desidae in association with the *Goyenia* series of genera. Since that time a few more

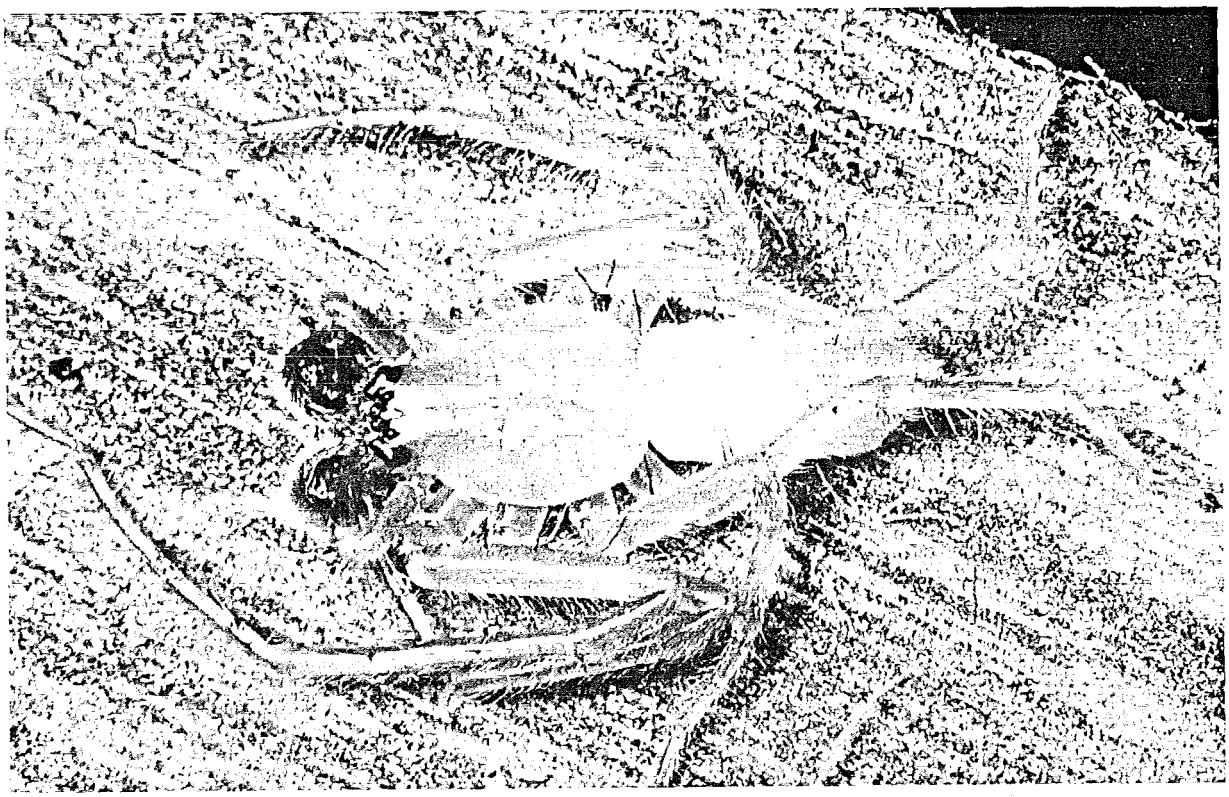
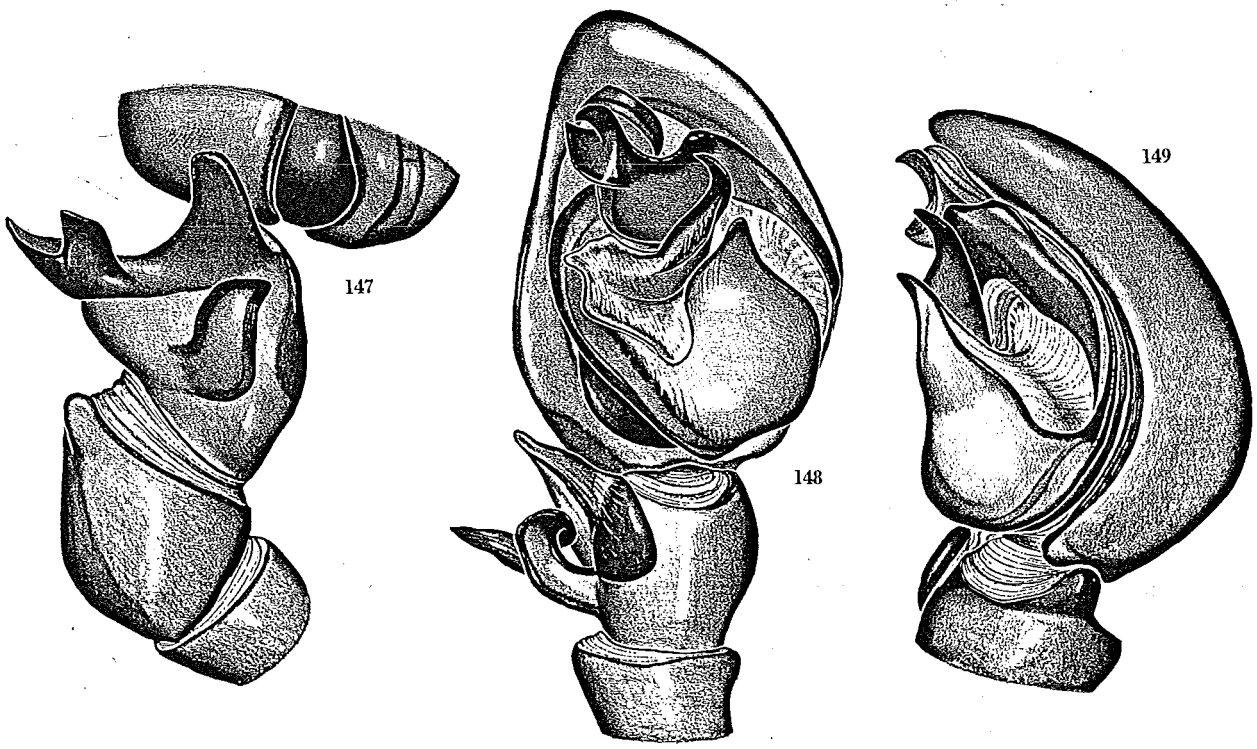


Fig. 146 *Anaua unica* Male from Lake Hauroko



Figs. 147-149 *Anaua unica* Male palp Fig. 147 Retrolateral view Fig. 148 Ventral Fig. 149 Prolateral view

specimens including a mature male have been collected by C. L. Wilton from Lake Hauroko where they live in low ferns in beech forest. An examination of the tracheal system shows that this is simple with four unbranched tubes limited to the abdomen. The structure of the male palp coupled with the simple receptaculate form of internal genitalia also indicates that the genus does not belong in the Dictynoidea.

While it is a simple matter to decide where the genus should not be placed considerable difficulties arise when a positive phylogenetic placement is contemplated.

General appearance immediately brings to mind such genera as *Hemicloea* and *Cycloctenus* and while the relationship with *Hemicloea* may readily be dismissed the possibility of some affinity with *Cycloctenus* remains. It was hoped that an examination of the microstructure might provide some clues but the evidence gleaned from the structure of the hairs, trichobothria and tarsal organ (Fig. 2) while removing the remote possibility of close relationship with the gnaphosid-clubionid complex leaves a very wide range of possibilities among the Amaurobioidea and Lycosoidea.

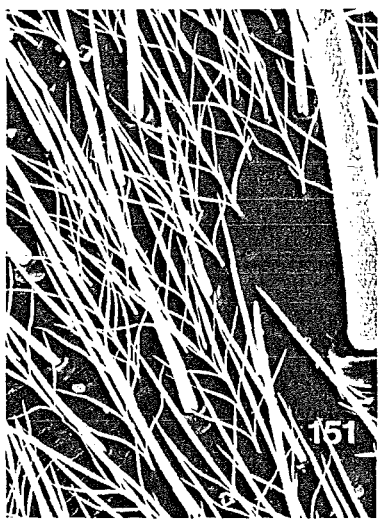
The structure of the male palp can readily be related to *Plectophanes*. The tibial processes are comparable. The membraneous conductor is not present and presumably lost. The complex modification of the tegulum serves this function in *Anaua* but with the reduction of the embolus in *Plectophanes* it is not functional in this sense. The median apophysis is well developed in both genera.

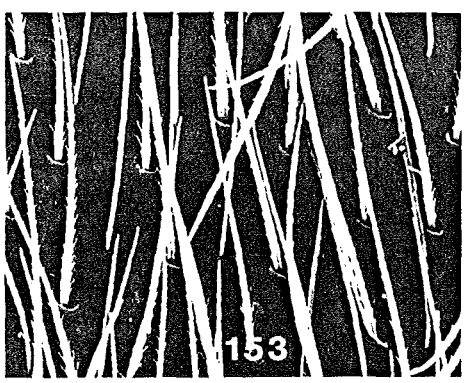
The presence of two rows of spines on the ventral surfaces of the tibiae and metatarsi of the legs is undoubtedly a widespread plesiomorphous character which in itself is of little assistance although the strong development of the spines remain a characteristic of all cycloctenids.

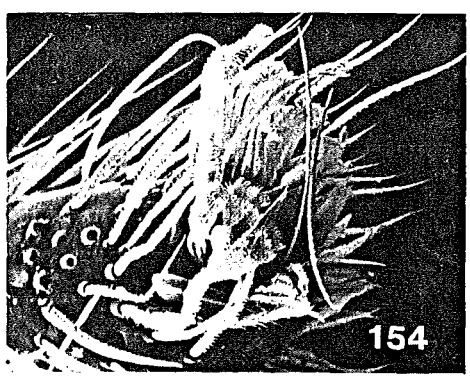
Although I have no convincing evidence that this genus is directly related to the cycloctenids I am taking this opportunity to provide illustrations of the male palp in association with *Plectophanes*.

Family **GNAPHOSIDAE** Pocock 1898

Gnaphosid spiders are not strongly represented in New Zealand in strong contrast to the situation in Australia where the group is both numerous and varied.





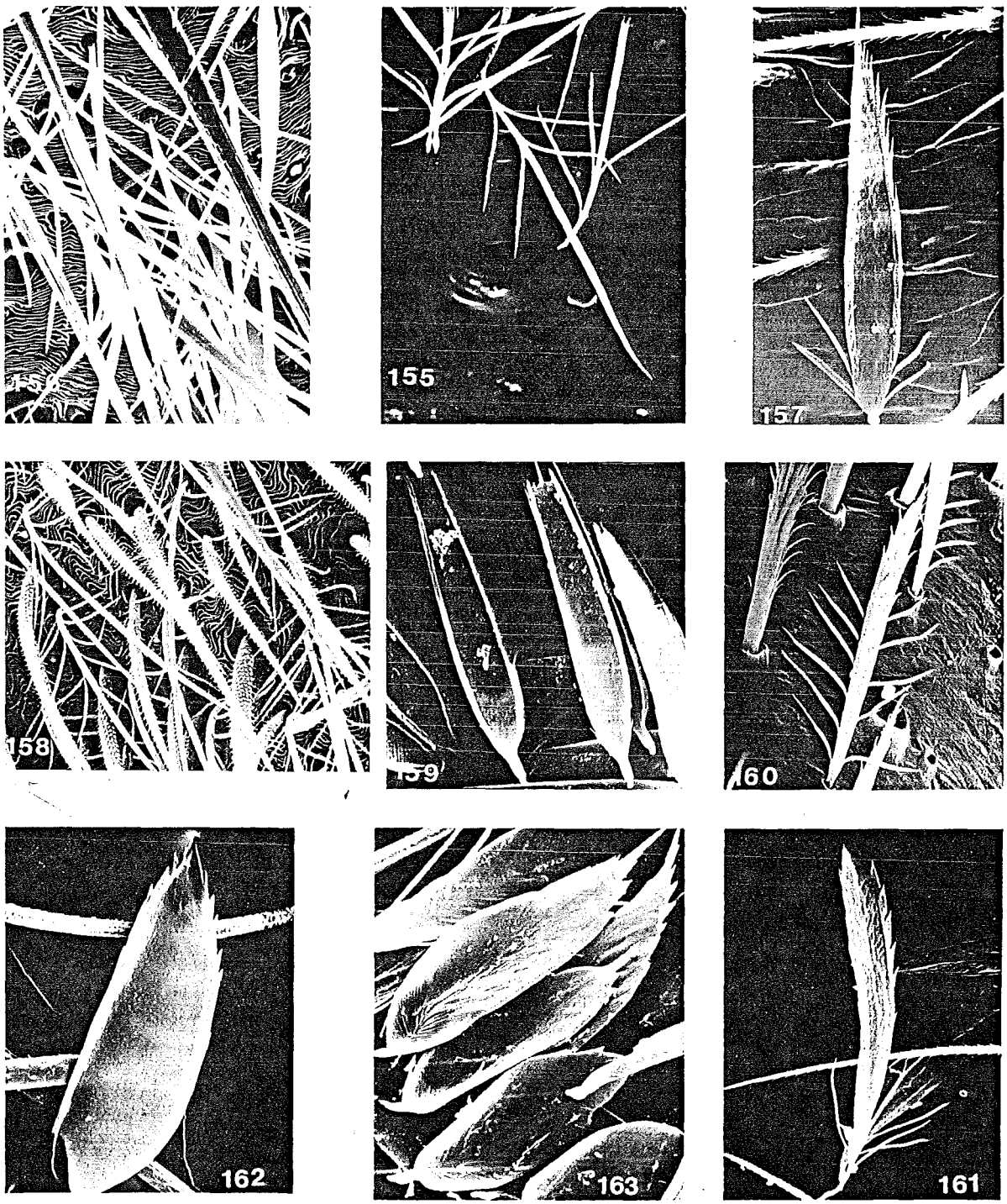


Figs. 150-153 Hairs on femora of legs Fig. 150 *Clubiona convoluta* n. sp. Fig. 151 *Notiodrassus distinctus* Fig. 152 *Supunna picta* Fig. 153 *Clubiona cada* n. sp. Fig. 154 *Clubiona peculiaris* claw tufts. Scanning Electron micrographs

Eleven genera are recorded below but only two, *Hypodrassodes* and *Taieria*, show the wide distribution with allopatric speciation which is characteristic of most New Zealand endemic genera.

Three other genera *Notiodrassus*, *Matua* and *Kaitawa* appear to represent a relict distribution of endemic groups but the remaining six genera all have the earmarks of recent although not necessarily post-European introductions.

Lampona, *Hemicloea*, *Intruda* and possibly *Anzacia* are represented by single widespread species which are also recorded from Australia and in New



Figs. 155-163 Abdominal hairs and scales Figs. 155-156 *Notiodrassus distinctus* Fig. 155 Isolated plumose hairs Figs. 156 Abdominal hairs in situ Fig. 157 *Anzacia gemmea Fig. 158 Lampona cyclindrata* Fig. 159 *Nauhea tapa* n. sp. Fig. 160-161 *Matua valida* Fig. 160 Plumose hair on metatarsus of first leg Fig. 161 Abdominal scape Fig. 162 *Scotophaeus pretiosus* Fig. 163 *Hypodrassodes maoricus* Scanning Electron micrographs

Zealand are characteristic of disturbed rather than indigenous habitats. *Scotophaeus* would also seem to fall into this category but if this were so the species found in New Zealand would more likely be an introduction from the Northern Hemisphere. *Nauhea tapa* could represent a relict species which with the transformation of the landscape from its primarily forested facies to pastoral conditions has initiated a sudden expansion in its range. The present day range of the species does suggest that it could have been primarily a tussock dwelling species capable of withstanding subalpine conditions. The occurrence of a specimen in the Subantarctic Islands along with the widespread mainland distribution would indicate that it possesses an effective dispersal mechanism.

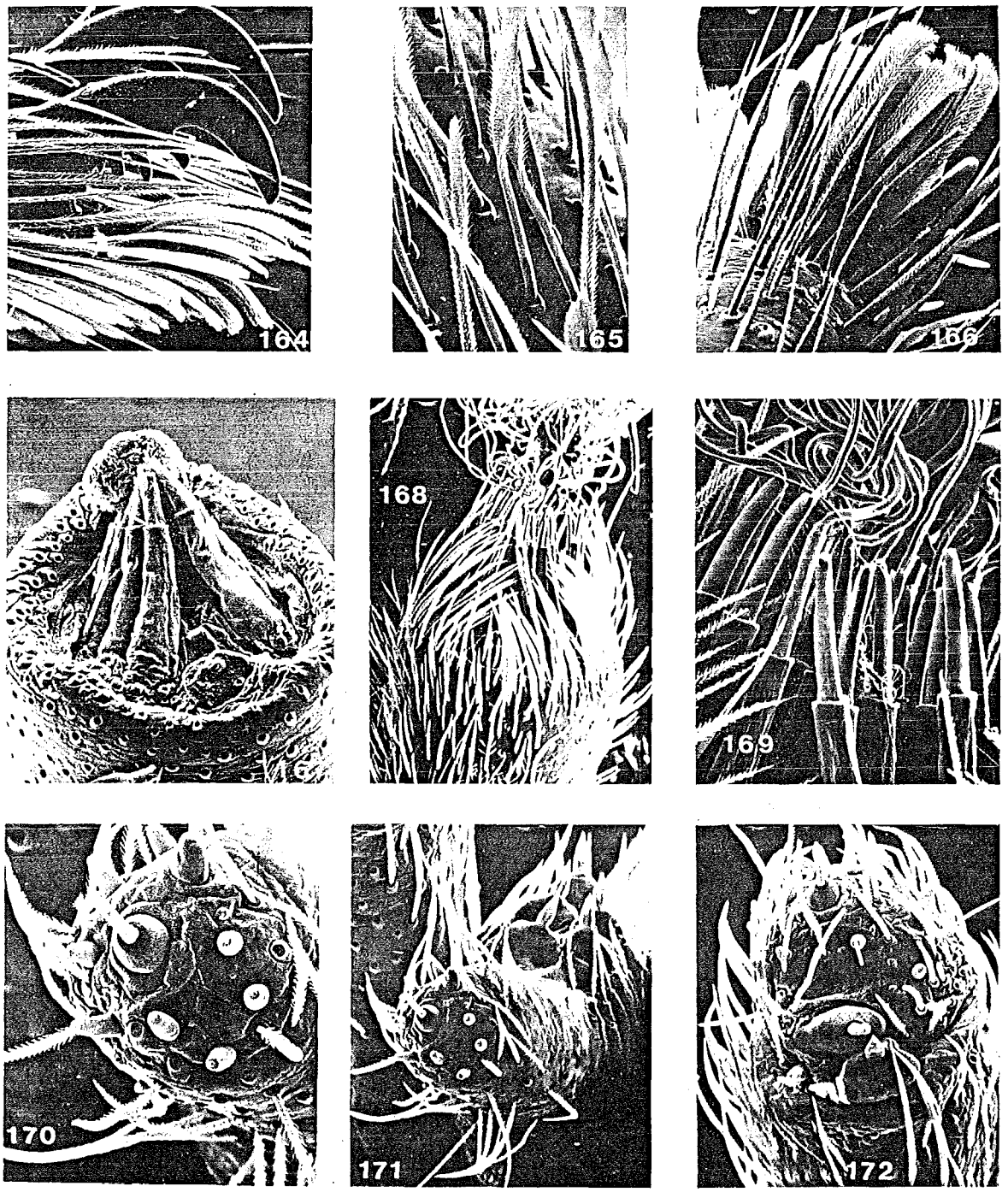


Fig. 164 Claws and claw tuft on *Hemicloea rogenhoferi* Fig. 165 Scopula hairs *Lampona cylindrata* Fig. 166 Claws and scopula of *Hypodrassodes maoricus* Fig. 167 *Taieria erebus* Female, anterior spinneret Fig. 168 *Hypodrassodes insulanus* n. sp. Female, anterior spinneret with extruded silk attached to the spigots Fig. 169 Englarded view of 168 Fig. 170 Median spinneret of female *Taieria erebus* Fig. 172 Posterior spinneret *Taieria erebus* female. Scanning Electron micrographs.

The characteristics of the family in so far as the New Zealand representatives are concerned is as follows.

Eyes in two rows with the AME darker than the indirect eyes. PME more or less oval in shape and usually different in outline to the other eyes. Two claws with pronounced claw tufts and tarsi and metatarsi of at least legs 1,2 with scopula. Anterior spinnerets usually distinctly cylindrical and widely separate at the base.

The abdomen is clothed with plumose hairs or scales. When the abdominal cover consists of scales the abdomen reflects light and appears shiny.

Hypodrassodes Dalmas 1920

Drassodes (part) Dalmas 1917. Ann. Soc. ent. Fr. 86:346. *Hypodrassodes* Dalmas 1920. Bull. Mus. hist. nat. p.250. Petrunkevitch 1928. Trans. Connect. Acad. Arts Sc. 29:152. Berland 1932. Encycl. Entomol. 16:345.

The eyes occupy about two-thirds of the head. Anterior row slightly recurved, posterior row similarly procurved. Anterior eyes larger than posterior eyes. Laterals subcontiguous. PME transversely oval. MOQ wider behind and longer than wide in front. Fovea distinct. Abdomen uniformly clothed with scales which are broadly lanceolate, serrated distally and with few or no basal branches (Fig. 163). Spinnerets typically gnaphosid, anterior pair long and tubular and widely separated with numerous spigots (Fig. 168). Cololus represented by numerous hairs which may be separated into two areas. Median spinnerets not modified. Sternum scutiform, twice as long as wide (Fig. 184). Chelicerae with two teeth on retromargin and from 2-3 on promargin. Legs with thick scopula on the metatarsi and tarsi of legs 1,2. Weakly developed on tarsi of legs 3,4. Tibia with double ventral row of strong spines. Legs 1,2 with 2 basal spines on metatarsi. Trochanters notched. Claw tufts weakly developed (Fig. 166). Male palp with distally slender embolus, membraneous conductor and well developed median apophysis (Figs. 188, 198).

Type species *Drassodes maoricus* Dalmas 1917

There appears to be two groups of species. The *maoricus* group have separate openings for each receptaculum from the epigynum while the *dalmasi* group have the ducts fused mesially.

The genus is found mainly in the North Island with *maoricus* also occurring in the northern portion of the South Island. *Hypodrassodes* is readily recognised by the large size, uniform dark colouration and shiny abdomen with a dense covering of scales. The disposition of the eyes and the form of genitalia set the genus apart from any other gnaphosids recorded from New Zealand.

Hypodrassodes maoricus Dalmas

Drassodes maoricus Dalmas 1917. Ann. Soc. ent. Fr. 86:346. *Hypodrassodes maoricus* 1920. Bull. Mus. hist. nat. p.250.

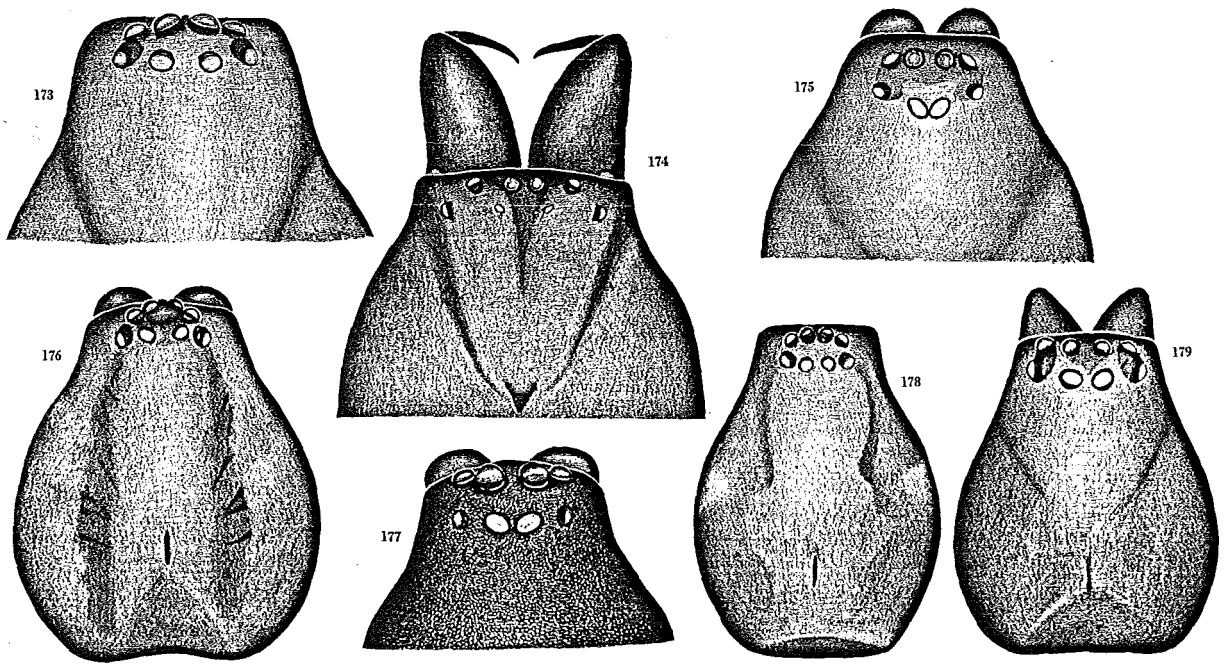
Figs. 163, 173, 184, 187-190

FEMALE

Measurements

Carapace length 4.9 width 3.8
Abdomen length 6.0 width 3.9

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	3.5	1.7	2.8	2.5	1.7	12.2
2	3.4	1.8	2.5	2.4	1.6	11.7
3	3.1	1.6	2.2	2.8	1.3	11.0
4	4.0	1.8	3.0	3.9	1.6	14.3
Palp	1.9	0.8	1.0		1.3	5.0



Figs. 173-179 Anterior portion of carapace showing arrangement of eyes Fig. 173 *Hypodrassodes maoricus* Fig. 174 *Hemicloea rogenhoferi* Fig. 175 *Taieria erebus* Fig. 176 *Notiodrassus distinctus* Fig. 177 *Lampona cylindrata* Fig. 178 *Scotophaeus pretiosus* Fig. 179 *Anzacia gemmea*

Colour Carapace and legs yellowish brown. Abdomen dark brown and shiny without pattern.

Carapace Relative width of head to thorax 11:9. Head region distinct and relatively high. Carapace clothed with fine silky adpressed hairs and fewer erect hairs. Fovea long but narrow.

Eyes Occupying 7/10 of head width. Anterior row slightly recurved. Posterior row procurved. Ratio AME.ALE.PME.PLE = 7.6.4.5. AME separated from each other by 4/7 and from the ALE by 2/7 of the diameter of an AME. Laterals subcontiguous. PME separated from each other and the PLE by a diameter of an AME. MOQ wider in front than behind in the ratio of 18:15 and wider in front than long in ratio of 18:16.

Sternum Anterior margin straight. Lateral margins evenly curved with a projection at the base of each coxa. Posterior projection short. Longer than wide in ratio of 19:10.

Maxillae Rectangular in outline. Parallel. Basal portion distended. Twice as long as wide (Fig. 184).

Labium Longer than wide in ratio 8:7. Basal notch shallow. Lateral margins slightly convergent. Anterior margin evenly indented (Fig. 184).

Chelicerae Retromargin with 2, promargin with 3 teeth.

Legs Thick scopula on tarsi and metatarsi of legs 1,2. Scopula on metatarsi 3,4 reduced to the distal surface. Spines: Legs 1,2 femur d.1.1.0, p.0.0.2, tibia v.2.2.1, metatarsus v.2 proximal. Leg 3 femur d.1.3.3, tibia v.2.1.2, p,r.0.1.1, d.1.0.0. Metatarsus v.2.2.1, p,r.1.1.1, d.0.1.2. Leg 4 femur d.1.2.0, tibia v.2.2.2, p,r.1.1.0, metatarsus v.1 distal, p.0.1.2, r.1 distal.

Abdomen Anterior spinnerets tubular, separated at the base by the width of a spinneret. Cololus present as a thick tuft of hairs. Epigynum as in Fig. 189 characterised by the evenly curved rim which extends around the full width. Internal genitalia simple (Fig. 190).

MALE

Measurements

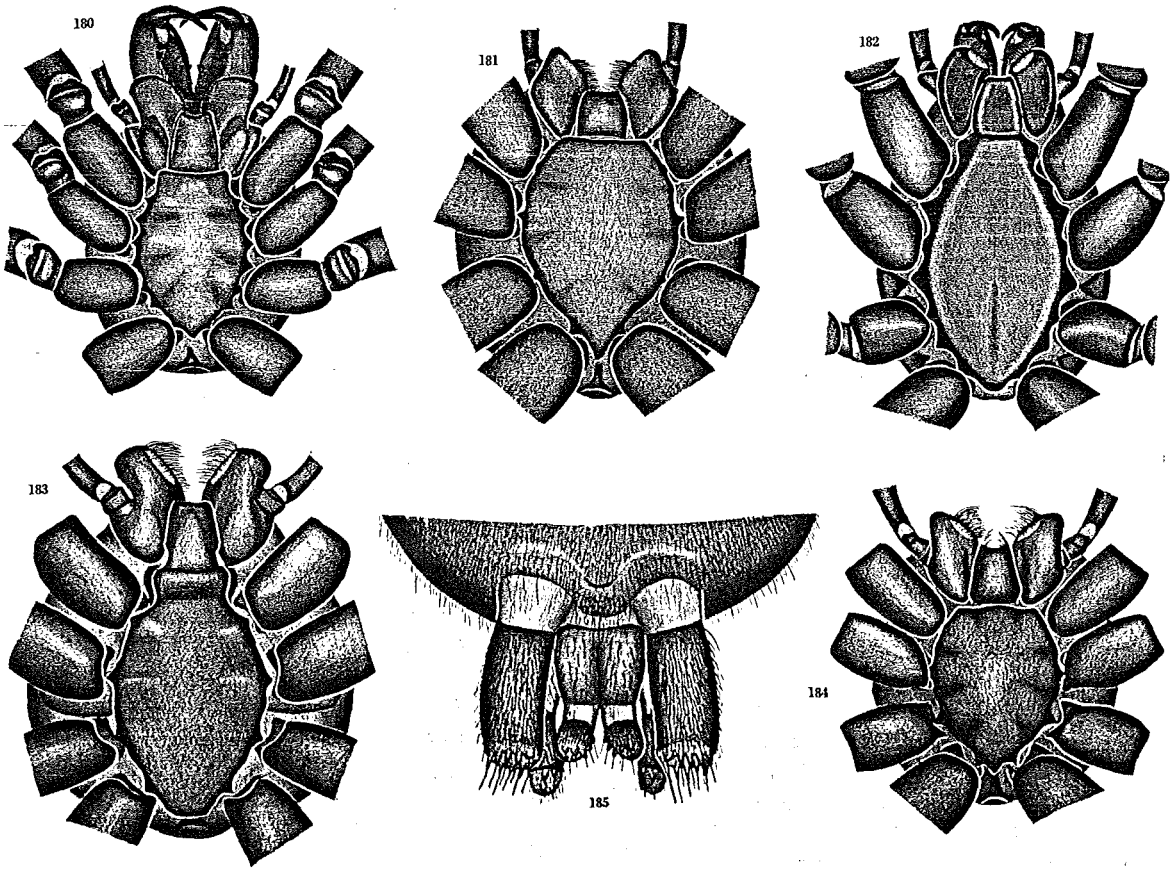
Carapace	length 3.9		width 2.9
Abdomen	length 4.7		width 2.5

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	3.1	1.5	2.5	2.3	1.6	11.0
2	2.9	1.6	2.2	2.2	1.5	10.4
3	2.8	1.4	1.9	2.4	1.3	9.8
4	3.3	1.6	2.6	3.6	1.5	12.6
Palp	1.1	0.7	0.8		1.2	3.8

Palp as in Figs. 187, 188. Tibial process distinctive, lacking the ventral extension characteristic of *dalmasi* and *courti*. Median apophysis small as in *dalmasi* but of a different shape.

Types Holotype female in Natural History Museum, Paris (not seen).

Records North Island. Northland. Kohukohu, 28.viii.53, B. J. Marples. Opononi, foliage, 8.i.67, R.R.F. Auckland. Great Barrier Island, Katherine Bay, 10.iv.66, F. M. O'Brien. Cuvier Island, x.43, R.R.F. Red Mercury Island, ix.71, D. Court. Lake



Figs. 180-184 Ventral surface of cephalothorax showing sternum, labium and maxillae Fig. 180 *Kaitawa insulare* n. sp. Fig. 181 *Taieria erebus* Fig. 182 *Lampona cylindrata* Fig. 183 *Hemicloea rogenhoferi* Fig. 184 *Hypodrassodes maoricus* Fig. 185 Spinnerets of *Taieria erebus* female Note the elongate fused median spinnerets. The detailed disposition of spigots is shown in Figs. 170, 171.

Rotoehu, near Hongi's Track, 4.x.69, C.L.W. Hongi's Track, 4.x.69, C.L.W. Destruction Gully, Huia, pit trap, 25.vii.74, B. M. May. Huia, 28.ii.74-10.iv.74, B. M. May. Auckland district, v.51, B. J. Marples. Grafton Road, Auckland, 9.iv.51, C. Skerrett. Matamata, 22.viii.70, D. Court. Manunui, 25.ii.67, C.L.W. Te Wairoa Falls, 23.viii.70, D. Court. Ngongotana, 24.viii.70, D. Court. Waikaremoana, track to Mt. Gnamoko, on foliage at night, 1.x.46, R.R.F. Tongariro Delta, 18.v.66, R. W. Hutton. Rotorua-Taupo highway, marsh detritus, 2.xii.75, A.D.B. Gisborne. Waihapokopoko, eastern Bay of Plenty, 2.x.69, C.L.W. Hawkes Bay. Clifton, on foliage, 22.xii.46, R.R.F. Rissington, R. W. Hutton. Waiohiki, 5.v.63, R. W. Hutton. Taranaki, Oakura, grass under flax, 10.vii.75, A.D.B. Totara Reserve, 20.v.45, 4.x.48, R.R.F. Feilding, 26.xii.73, 6.i.52, R.R.F. Feilding, under logs, 10.i.49, R.R.F. Feilding, Kitchener Park, 27.xii.66, R.R.F. Vinegar Hill Reserve, 12.xii.49, R.R.F. Pakaraka Road, Te Whiti, Masterton, C.L.W. Solway showgrounds, Masterton, 18.iii.66, 13.ix.67, C.L.W. Solway, 24.ix.66, R. W. Hutton. Mangareia, on Toetoe, 20.vii.45, C.L.W. Mangareia, 12.iii.58, C.L.W. Apiti Road, Niggerheads, 28.ix.72, C.L.W. Te Mata Peak, Hawkes Bay, 28.iv.42, R.R.F. Mt. Holdsworth, near motor-camp, Tararua Forest Park, under bark, 3.vii.66, C.L.W. Kaurarau, Wairarapa, 12.ix.67, C.L.W. Te Wharau, Wairarapa, 5.iii.61, C.L.W. Porirua, 7.vi.48, C. McCann. Wadestown, 22.xii.47, M. Turnbull. Karori Hills, under logs, 26.iv.46, R.R.F. Johnsons Park Karori, 24.i.46, R.R.F. Wellington, 1.vi.56, B. Guthrie. Kelburn, 13.vi.41, F. A. Bodley. Kapiti Island, v.47, R.R.F. Inner Chetwode Island, Cook Strait, leaf mould, x.59, J. C. Yaldwin. South Island. Marlborough. Arapawa Island, Queen Charlotte Sound, 22.ix.63, M. A. Crozier. Padely Bay, D'Urville Island, 22.viii.60, C. Devine. Ship Cove, S16510485 SD, litter 72.269, 27.xi.72-30.xi.72, J. McBurney. Shakespeare Bay, SD litter 73/70, 21.ii.73, J. McBurney. Bush at end of Mt. Fyffe Road, Kaikoura, 27.xii.74, A.D.B. North side mouth of Conway River, 12.v.55, R.R.F. Charlestown, 10.xi.50, L. P. Hugheson. Waitapu, 1.ix.66, R. W. Hutton.

Commonly found in forest under logs or loose bark this is the only species recorded from both North and South Islands and the sole representative of the genus in the South Island.

Hypodrassodes courti n.sp.

Figs. 191-194

MALE

Measurements

Carapace length 4.0 width 3.1
Abdomen length 4.6 width 2.8

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	2.8	1.7	2.7	2.3	1.4	10.9
2	2.6	1.5	2.5	2.0	1.2	9.8
3	2.6	1.3	1.8	2.3	1.0	9.0
4	3.5	1.7	2.8	3.6	1.3	12.9
Palp	1.3	0.7	0.7		1.1	4.8

Most characters including ratio and disposition of eyes are similar to *maoricus*.

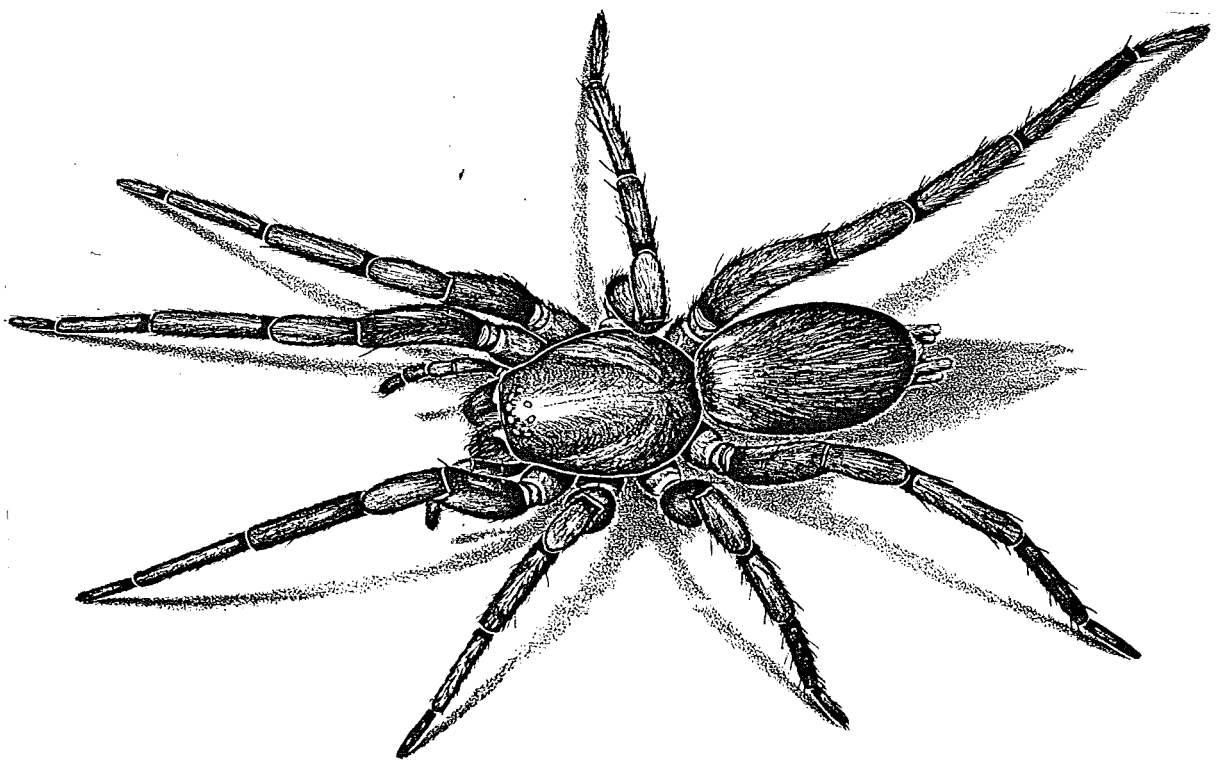
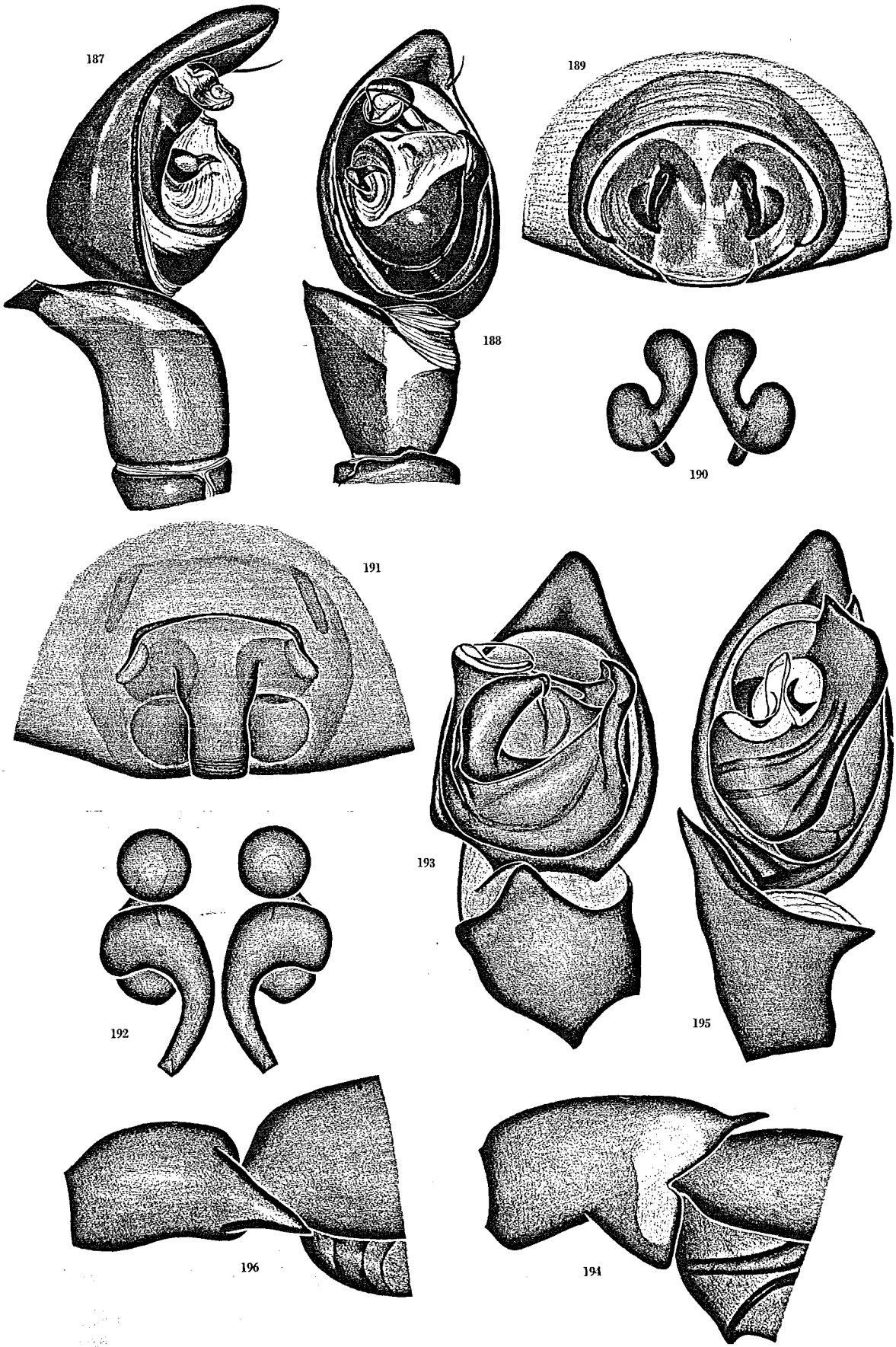


Fig. 186 *Hypodrassodes apicus* n. sp. female. Cape Reinga.



Figs. 187-190 *Hypodrassodes maoricus* Fig. 187 Retrolateral view of male palp Fig. 188 Ventral view of male palp Fig. 189 Epigynum Fig. 190 Internal genitalia from above Figs. 191-194 *Hypodrassodes courti* n. sp. Fig. 191 Epigynum Fig. 192 Internal genitalia from below Fig. 193 Ventral aspect of male palp Fig. 194 Retrolateral tibia male palp Figs. 195-196 *Hypodrassodes isopus* n. sp. Fig. 195 Ventral aspect of male palp Fig. 196 Retrolateral tibia male palp

Legs Spines: Leg 1 femur d.1.1.0, p.1 subdistal, tibia v.2.2.0, metatarsus v.2 proximal. Leg 2 femur d.1.2.2, tibia v.2.2.1, metatarsus v.2 proximal. Leg 3 femur d.1.3.3, tibia v.2.2.2, p.r.1.1.0, d.0.2.2. Leg 4 femur d.1.3.3, tibia v.2.2.2, r, p.r.1.1.1, d.2.0.2.

Palp (Figs. 193, 194) Tibial apophysis extended ventrally. Embolus longer than in *maoricus* extending directly across the tip of the bulb to a broad obtuse conductor. Median apophysis very large.

FEMALE

Measurements

Carapace	length 4.6	width 3.2	
Abdomen	length 6.6	width 4.4	

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	3.2	1.8	2.4	2.1	1.2	10.7
2	2.8	1.7	2.3	2.0	1.2	10.0
3	2.8	1.6	2.0	2.3	1.1	9.8
4	3.6	1.9	2.9	3.9	1.8	14.1
Palp	1.4	0.6	0.8		1.2	4.0

Genitalia as in Figs. 191, 192. The epigynum is readily distinguished from *maoricus* by the short anterior ridge and the prominent median lobe. Internal genitalia more complex.

Types Holotype male, allotype female, Red Mercury Island, September, 1971, D. Court (Otago Museum).

Records North Island. Auckland. Red Mercury Island, ix.71, D. Court. Butterfly Valley, Tauranga Bay, leaf litter, 25.ix.66, K. A. J. Wise. Taranaki, ex bush, 28.viii.60, B. J. Marples.

Hypodrassodes crassus n.sp.

Figs. 204-205

FEMALE

Measurements

Carapace	length 3.6	width 2.4	
Abdomen	length 4.3	width 2.4	

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	2.3	1.2	1.7	1.5	1.1	7.8
2	2.0	1.2	1.5	1.5	1.1	7.3
3	1.9	1.0	1.3	1.7	1.0	6.9
4	2.5	1.3	1.9	2.5	1.1	9.3

Palp missing

Eyes Ratio of AME.ALE.PME.PLE = 8.7.5.6. AME separated from each other by one half and from the ALE by one quarter of the diameter of an AME. Laterals subcontiguous. PME separated from each other and the PLE by twice the diameter of an AME. MOQ wider in front than behind in front in ratio of 10:9, and longer than wide in front in ratio 11:10.

Chelicerae Two teeth on each margin.

Legs Spines. Legs 1,2 femur d.1.1.0, p.1 subdistal. Leg 2 femur p.2 subdistal, tibia v.0.2.1, metatarsus v.2 proximal. Legs 3,4 femur d.2.2.3, tibia v.2.2.2, d.1.0.0, p.r.0.1.1, metatarsus v.2.2.1, p.r.1.1.2, d.0.2.2.

Genitalia (Figs. 204, 205). Anterior lip of epigynum narrow and posterior margin well developed. Internal genitalia simple with each receptaculum opening separately near the posterior margin of the epigynum.

Types Holotype female, Bushey Park, Wanganui, March 19, 1969, R. R. Forster, C. L. Wilton (Otago Museum).

Records South Island. Stephens Island, 19.v.50, R.R.F.

The form of the epigynum with the widely separated openings is distinctive.

Dalmasi group

Dalmasi, isopus, apicus and *insulanus* form a predominantly northern group characterised by the stout embolus which narrows near the tip with a secondary process near the base. The tibial process extends both dorsally and ventrally. The epigynum has a depressed central area and the ducts opening from the epigynum are joined mesially. Sternum squat, only slightly longer than wide.

Hypodrassodes dalmasi n. sp.

Figs. 197-200.

FEMALE

Measurements

Carapace	length 3.4	width 2.5	
Abdomen	length 4.8	width 2.5	

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	2.6	1.5	1.7	1.7	1.1	8.6
2	2.4	1.3	1.7	1.6	1.2	8.2
3	2.1	1.2	1.3	1.9	0.9	7.4
4	2.7	1.5	2.0	2.9	1.2	10.3
Palp	1.0	0.6	0.7		1.0	3.4

Colour Typical.

Carapace Ratio of head width to thorax 9:16. Clothed with fine adpressed hairs and fewer erect hairs.

Eyes Group occupies 9/14 of width. Anterior row slightly recurved. Posterior more strongly procurved. Ratio of AME.ALE.PME.PLE = 8.8.7.7. AME separated from each other by 5/8 and from the ALE by 3/8 of the diameter of an AME. Laterals separated by 3/8. PME separated from each other and the PLE by a distance equal to the diameter of an AME. MOQ square.

Sternum Squat. Longer than wide in ratio 9:7. Posterior projection short.

Maxillae Parallel. Twice as long as wide. Proximal half distended.

Labium Longer than wide in ratio 6:5. Basal notches distinct. Lateral margins straight, convergent. Anterior margin indented.

Chelicerae Two teeth on both margins.

Legs Scopula on all tarsi. Only two thirds of the metatarsi of legs 1,2 scopulate. Reduced to a distal tuft on legs 3,4. Spines: Leg 1 femur d.1.1.0, p.1 subdistal, tibia v.2.2.1, metatarsus v.2 basal. Leg 2 femur d.1.1.0, p.1 subdistal, tibia v.1.2.1., metatarsus v.2 basal. Leg 3 femur d.2.1.3, tibia v.2.1.2, p,r.1.1.0, d.1.0.0, metatarsus v.2.2.1, p.1.2.2, r.1.1.2. Leg 4 femur d.2.1.3, tibia v.2.2.2, p.r.d. 1.1.0, metatarsus v.2.2.1, p.1.1.1, r.0.1.1, d.2.0.2.

Genitalia Epigynum as in Fig. 199. The internal genitalia (Fig. 200) differ from the *maoricus* group because the ducts are fused on the dorsal surface and do not appear as separate openings.

MALE

Measurements

Carapace	length 3.0	width 2.2	
Abdomen	length 3.9	width 1.9	

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	2.3	1.3	2.2	1.9	1.2	8.9
2	2.1	1.2	1.6	1.6	0.9	7.4
3	1.9	1.0	1.3	1.7	0.8	6.7
4	2.6	1.3	2.9	2.7	1.1	9.7
Palp	0.9	0.4	0.5		0.8	2.6

Palp as in Figs. 197, 198. Embolus stout with a sharp proximal process. The short slender distal portion of the embolus rests on a small membraneous conductor. Median apophysis small, rising from midventral surface of bulb.

Types Holotype male. Wellington, Kapiti Island, April, 1947, R. R. Forster (Otago Museum).

Records North Island. Northland, Houhora, 25.viii.53, B. J. Marples. Mangonui Cove, forest summit, Mangamuka Hills, 382m, leaf litter under *Freycinetia*, 9.xi.66, K. A. J. Wise. Kohukohu, by roadside, 20.viii.53, B. J. Marples. Opononi Beach, 7.1.67, R. R. F. Te Hope, 29.xii.66, Taurikura Bay, Whangarei Heads, under boulders near the sea, 27.v.70, D. Court. Waro Reserve, Hikurangi, Auckland Museum, plant/soil sample 20, leaf litter, 10.viii.66, K. A. J. Wise. Auckland. Ngapuhi Road, Auckland, second growth, 16.v.70, M. P. Buchler, Little Barrier Island, xii.66, I. Townsend. Cuvier Island, x, 43, R. R. F. Alderman Island, Ruamahua-iti, 19.v.72-27.v.72, D. Court. Mayor Island, 27.iv.60, J. M. Moreland. Mayor Island, North-west Bay, Auckland Museum plant/soil sample 137, flax leaf litter, 8.xii.66, K. A. J. Wise. Whangaroa Cove, Tauranga Bay, Auckland Museum plant/soil sample, Pohutukawa leaf litter, 28.ix.66, K. A. J. Wise. Whale Island, Bay of Plenty, 27.viii.50, D. Court. Whale Island, 27.viii.70, 27.xii.70, Auckland University Field Club.

Hypodrassodes isopus n. sp.

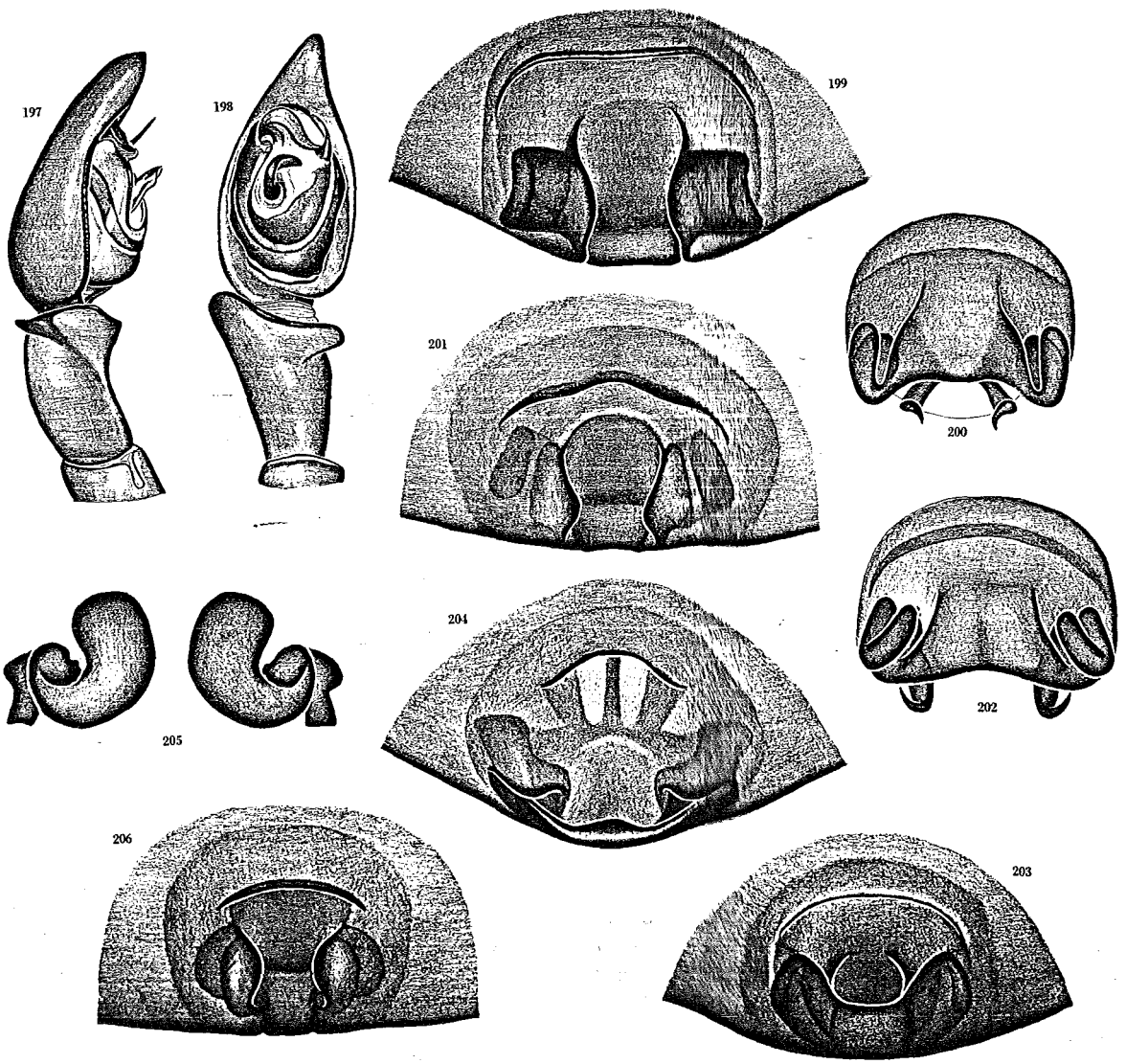
Figs. 195-196.

MALE

Measurements

Carapace length 3.6 width 2.6
Abdomen length 4.4 width 2.4

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	22.6	1.4	2.1	1.9	1.3	9.3
2	2.5	1.3	1.9	1.7	1.2	8.6
3	2.3	1.2	1.5	2.0	1.0	8.0
4	3.0	1.5	2.3	3.0	1.2	11.1
Palp	1.2	0.6	0.5		1.3	3.6



Figs. 197-200 *Hypodrassodes dalmasi* n. sp. Fig. 197 Retrolateral view of male palp Fig. 198 Ventral view of male palp Fig. 199 Epigynum Fig. 200 Internal genitalia from above Fig. 200 Internal genitalia from above Figs. 201-202 *Hypodrassodes insulanus* n. sp. Fig. 201 Epigynum Fig. 202 Internal genitalia from above Fig. 203 *Hypodrassodes* s. Auckland Epigynum Figs. 204-205 *Hypodrassodes crassus* n. sp. Fig. 204 Epigynum Fig. 205 Internal genitalia from above Fig. 206 *Hypodrassodes aspicus* n. sp. Epigynum

Hypodrassodes

Eyes Anterior row slightly recurved, posterior row procurved. Ratio AME.ALE.PME.PLE. = 8.6.7.10. AME separated from each other by 8/8 and from the ALE by 2/8 of the diameter of an AME. Laterals subcontiguous. PME separated by 10/8 and from the PLE by 7/8 of the diameter of an AME. MOQ as wide in front as behind and wider than long in ratio of 24:21.

Sternum longer than wide in ratio of 5:4.

Maxillae Subrectangular, twice as long as wide. Swollen proximally.

Labium Basal notch distinct. Lateral margins parallel. Anterior margin slightly indented. Longer than wide in ratio 20:17.

Chelicerae Two teeth on each margin.

Palp (Figs. 195, 196) Embolus massive with a broad prolateral spine. Conductor membraneous and well developed. Median apophysis small, hooked. Tibia with a broad pointed process directed forward.

Abdomen Antero-dorsal surface of the abdomen sclerotised. Anterior spinnerets tubular and widely separated. Colulus represented by a thick clump of hairs.

Type Holotype male, Waikaremoana, Panikiri Track, 877m, under logs, December 2, 1946, R. R. Forster (National Museum).

The very distinctive palp readily separates this species from all other described species. The massive embolus with a secondary spine suggests that it belongs in the *dalmasi* group.

Hypodrassodes apicus n. sp.

Fig. 206.

FEMALE

Measurements

Carapace	length 3.4		width 2.3
Abdomen	length 3.9		width 2.1

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	2.2	1.4	1.9	1.8	1.2	8.5
2	2.2	1.1	1.6	1.5	1.1	7.5
3	2.0	1.1	1.3	1.8	0.9	7.1
4	2.7	1.5	2.0	2.7	1.1	11.0

Eyes Ratio of AME.ALE.PME.PLE = 7.7.5.6. AME separated from each other by 3/7 and from the ALE by 2/7 of the diameter of an AME. Laterals subcontiguous. PME separated from each other and the PLE by distance equal to the diameter of an AME. MOQ as wide in front as behind and longer than wide in the ratio of 18:17.

Chelicerae Two teeth on each margin.

Legs Spines: Leg 1 femur d.1.1.0, p.1 subdistal, tibia v.2.2.1, metatarsus v.2 proximal. Leg 2 femur d.1.1.0, p.1 subdistal, tibia v.1.2.1, metatarsus v.2 proximal. Leg 3 femur d.2.2.3, tibia d.1.0.0, v.1.2.2, p.1.1.0, r.0.1.1, metatarsus d.0.2.2, v.2.2.1, p,r 1.1.1. Leg 4 femur d.1.2.3, tibia d.1.1.0, v.2.2.2, p.1.1.0, r.1.0.0, metatarsus d.0.2.2, p,r.1.1.1, v.2.2.1.

Genitalia Fig. 206. The epigynum is typical of the group and characterised by the narrow anterior ridge. Internal genitalia not examined.

Type Holotype female. Northland. Cape Reinga, January, 2, 1967, under log, R. R. Forster (Otago Museum).

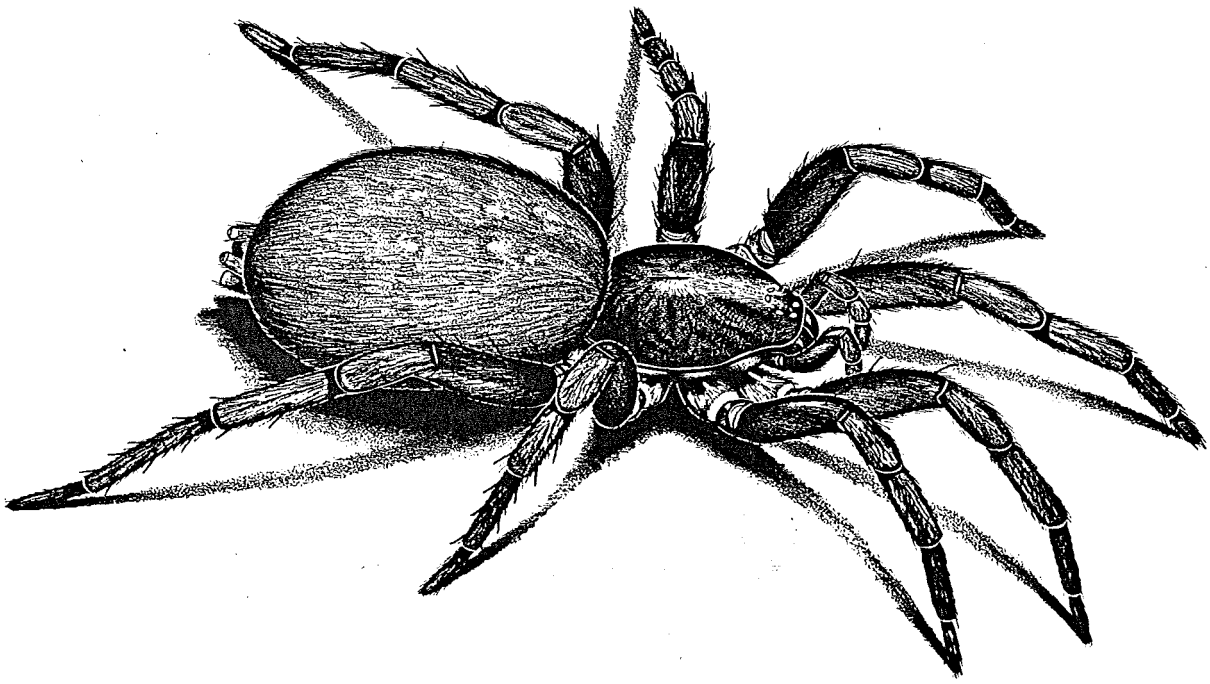


Fig. 208 *Taieria elongata* n. sp. Female

Hypodrassodes insulanus n. sp.

Figs. 201-202.

FEMALE

Measurements

Carapace	length 4.0		width 2.9
Abdomen	length 4.5		width 2.8

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	2.7	1.8	2.3	1.9	1.3	11.0
2	2.6	1.5	2.1	1.7	1.2	9.1
3	2.5	1.4	1.6	2.2	0.9	8.6
4	3.2	1.7	2.4	3.3	1.2	11.8
Palp	1.2	0.7	0.8		1.1	3.8

Similar to *apicus*. The PME are more closely spaced. Tibiae of legs 1,2 with one less basal spine on the ventral surface.

Epigynum As in Fig. 201. The central depressed area is somewhat wider and the anterior ridge extends further than in *apica*. The internal genitalia are as in Fig. 202.

Types Holotype female. Three Kings Islands, under *Leptospermum* bark, November, 1970, J. C. Watt (Ent.Divn. DSIR).

Records North Island. Three Kings Islands, Castaway Camp, xi.70,G. W. Ramsay, South West Island, 1.xii.70,G. W. Ramsay.

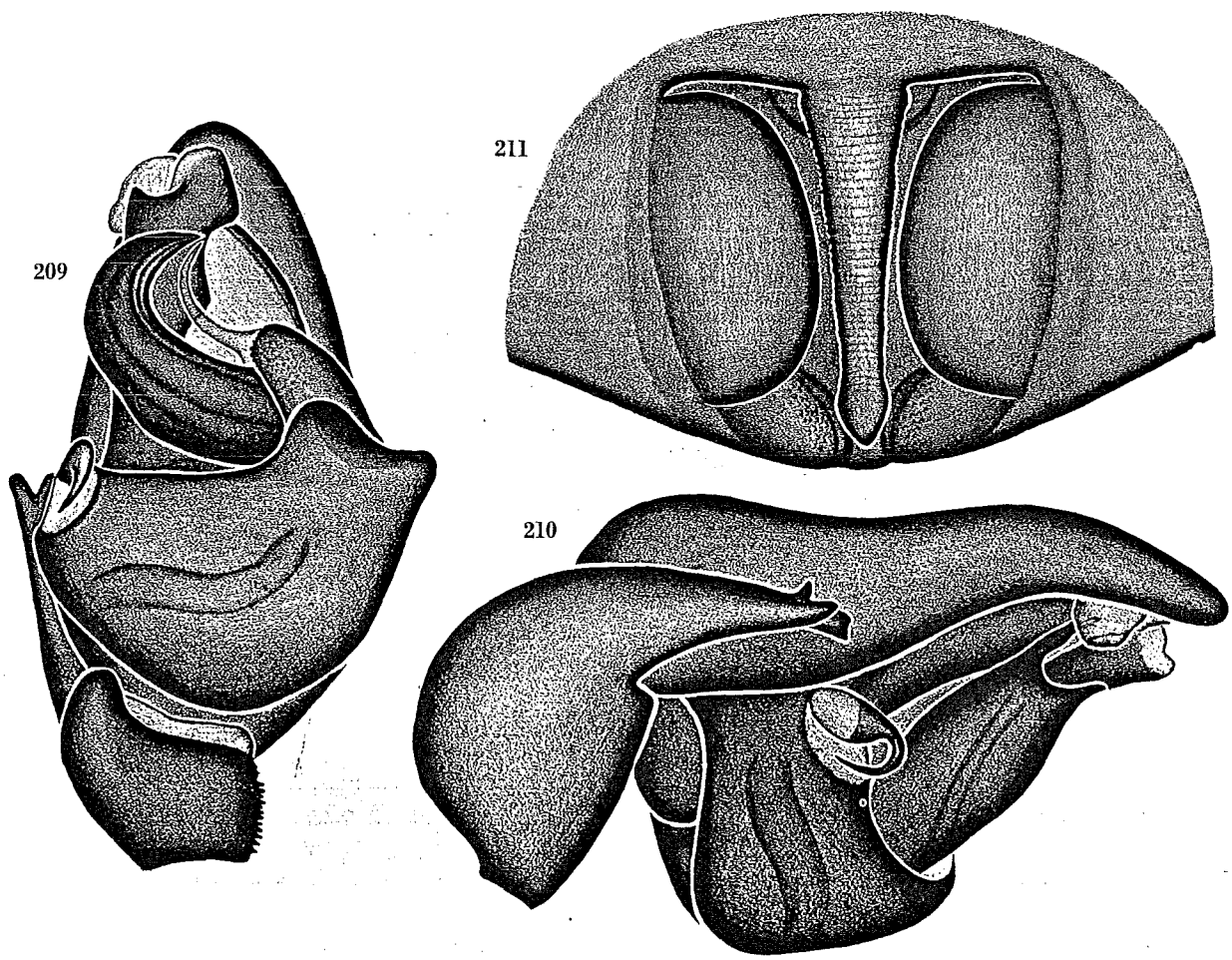
Only females have been collected. This species is larger than *apicus* and the epigynum although similar is easily distinguished.

Taieria n. gen.

Carapace pear shaped with head region narrow. Front row of eyes straight while the posterior row is strongly procurved. AME smaller than PME. PME markedly oval and subcontiguous. Fovea distinct. Sternum scutiform, much longer than wide. Retromargin of chelicera with one, promargin with from 2-3 teeth. Tibia of legs with a double row of spines on the ventral surface and a basal ventral pair on metatarsus. Thick scopula on metatarsus and tarsus of legs 1,2 and tarsus of legs 3,4. Claw tufts well developed. Double row of trichobothria on tibiae and single rows on metatarsii and tarsi. Bothrium ridged (Fig. 14). Tarsal organ distal, small with oval opening. Abdomen closely clothed with plumose hairs but lacking scales. Median and posterior spinnerets placed on a common base. Median pair of female modified, obtuse distally (Figs. 170, 171). Anterior pair tubular widely separate. Epigynum with prominent median scape (Fig. 214). Internal genitalia with two pairs of receptacula. Male palp with digitate processes on both patella and tibia (Fig. 213). Embolus laminar, conductor vestigial or absent. Median opophysis small, hooked.

Type species *Drassus erebus* L. Koch 1873.

Taieria appears to be the sister group of some of the Australian species currently placed in *-Echemis*. I have illustrated the genitalia of an Australian species, probably *E. griseus*, for comparison. The



Figs. 209-211 *Echemus grieseus* New South Wales, Australia Fig. 209 Ventral aspect male palp Fig. 210 Retrolateral aspect male palp Fig. 211 Epigynum.

epigynum has a well developed scape but the lateral lobes are not present in the New Zealand species. The palp is quite distinct with a different form of tibial process and a massive development of the embolus and conductor.

Taieria is found throughout New Zealand but has not been found in the Subantarctic Islands or the Chatham Islands. The speciation represented is typical for forest spiders but the genus is not restricted to forest, being commonly found in river beds and along beaches as well as in swamp and tussock. These spiders do not appear to be found in subalpine conditions. Adult spiders are only rarely found and male specimens are poorly represented in the collections studied. It appears that the lifespan of adults is relatively short and this is particularly so for the males. Young specimens may be found throughout the year in suitable habitats usually sheltering in a silken retreat beneath bark or stones.

Taieria erebus Koch L.

Drassus erebus Koch L. 1873. Die Arach. Austr. p.387.
Urquhart 1892. Trans.N.Zeal.Inst. 24:221.
Drassus ochropus Koch L. 1873. Die Arachn.Austr. p.390.
Simon 1893. Hist.Nat.Araign. 1(2):367.
Drassodes ochropus Hogg 1900. Proc.Roy.Soc.Victoria 13:72.
Megamyrmecion erebus Dalmas 1917. Ann.Soc.ent.Fr. 86:348.

Figs. 167, 170-172, 175, 181, 185, 212-219.

FEMALE

Measurements

Carapace	length 3.1		width 2.2
Abdomen	length 5.2		width 3.0

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	2.3	1.2	1.6	1.3	1.0	7.4
2	2.1	1.2	1.5	1.3	0.9	7.0
3	1.8	0.9	1.2	1.6	0.9	6.4
4	2.4	1.3	1.9	2.5	1.0	9.1
Palp	0.9	0.5	0.5		0.9	2.8

Colour Carapace and appendages yellow brown. Abdomen uniform grey with 3 pairs of small reddish brown muscle spots on the mid dorsal surface.

Carapace Low, pear shaped. Head region narrow, only 2/5 of the width of the thorax. Fovea relatively long but narrow. Clothed with numerous small adpressed hairs.

Eyes Eyegroup compact, occupying 3/5 of the width of the head. Anterior row straight, posterior row strongly procurved. PME distinctly oval. Ratio of AME.ALE.PME.PLE = 7.6.9.8. AME separated by 6/7 of the diameter of an AME and contiguous with ALE. Laterals separated by 4/7. PME separated from each other by 3/7 and from the PLE by 6/7 of the diameter of an AME. MOQ wider behind than in front in the ratio of 21:20 and longer than wide in front in ratio of 28:20.

Sternum (Fig. 181) Scutiform. Longer than wide in ratio 3:2. Posterior projection short.

Maxillae Rectangular, slightly convergent. Basal region not strongly distended.

Labium Slightly wider than long. Lateral margins curved, anterior margin indented.

Chelicerae Small and vertical. Promargin with 3, retromargin with one tooth.

Legs Legs 1,2 with scopula on metatarsi and tarsi, legs 3,4 with tarsi scopulate. Spines: Leg 1 femur d.1.1.0, p.1. distal, tibia v.2.1.1, metatarsus v.2 basal. Leg 2 femur d.1.1.1, p.1. distal, tibia v.0.1.1, metatarsus v.2 basal. Leg 3 femur d.1.3.3, patella p.1, tibia v.2.2.2, p.2.0.1. Leg 4 femur d.1.1.3, patella p.1, tibia v.2.2.2, p, r.0.1.1, metatarsus v.2.2.2, p,r.1.2.2.

Abdomen Spinnerets characteristic with the posterior and median pairs placed on a common lobe. (Fig. 185). Anterior spinnerets tubular and widely separate. Colulus with two bunches of hairs.

Genitalia as in Figs. 214, 216.

MALE

Measurements

Carapace	length 3.6		width 2.8
Abdomen	length 4.4		width 2.7

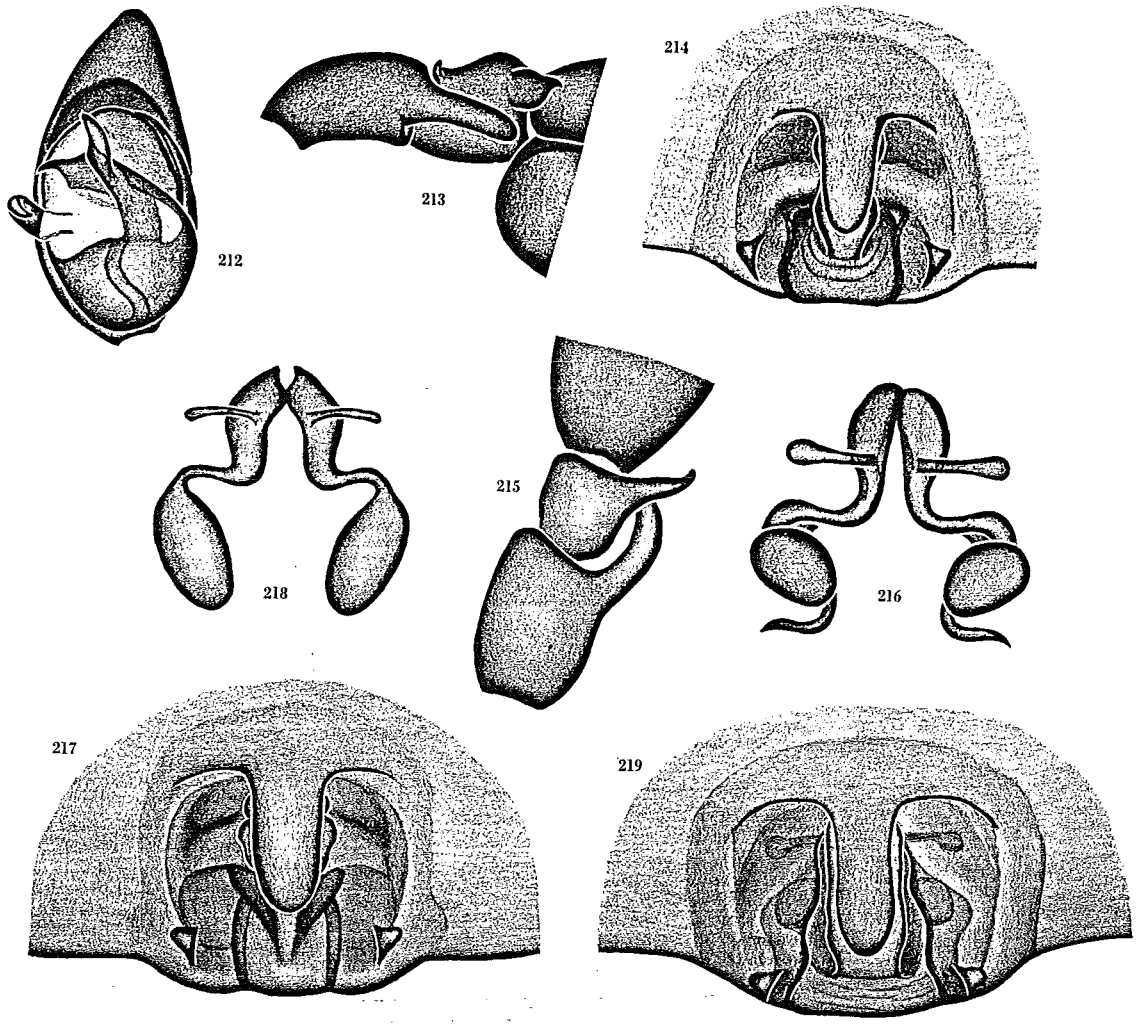
Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	2.7	1.6	2.0	1.6	1.0	8.9
2	2.5	1.4	1.7	1.6	1.0	8.2
3	2.1	1.2	1.3	1.8	0.9	7.3
4	2.6	1.5	2.1	2.7	1.0	9.9
Palp	1.0	0.4	0.3		0.9	2.6

Similar to the female but with the characteristic triangular sclerotised plate on the antero-dorsal surface of the abdomen. The median spinnerets are not modified. Patella process long, tibial process short (Fig. 213). Bulb as in Fig. 212.

Types Holotype male of *Drassus erebus* and holotype female of *Drassus ochropus* O.P. Cambridge Coll. from Canterbury (not seen).

Records North Island. Wellington. Waikanae, 6.ii.43, R.R.F. Red Rocks, 31.v.41, F. A. Bodley. Karori Hills, 6.vii.40, R.R.F. Coastal Plain near Flat Point, 5.ix.70, C.L.W. Wellington, Signal Hill, 10.vi.41, F. A. Bodley. South Island. Canterbury. Woodend Beach, 26.xii.57, R. L. C. Pilgrim. Kaiapoi, 7.ii.60, R. E. Leech. Christchurch in house, 10.ix.54, R.R.F. Christchurch in garden, Christchurch on building in garden, 12.xii.43. Christchurch, xi.50, R. L. C. Pilgrim. Deans Bush, Christchurch, 20.xii.49, J. S. Dugdale. Victoria Park, Christchurch, 26.x.60, R. E. Leech. Harewood Airport, Christchurch, 22.x.59, E. Young. Lincoln College, pitfall, P. A. Campbell. Rangitata Bridge, under stone, 10.xii.55, B. J. Marples. Coopers Creek, 1.xii.48, R.R.F. Puru Stream, 16.ix.62, R. S. Bigelow. Mt. Algidus, 11.iii.46, R.R.F. Peel Forest, 30.ix.66, R.R.F., C.L.W. Weka Pass, 12.i.47, B. J. Marples. Otago. Omarama, x.62, W. T. Poppelwell. Deep Dell, pitfall, 6.xii.67, 27.i.68, 20.xi.68, C.L.W. Summit Taieri Ridge, Deep Dell-Fillyburn, 12.xii.68, C.L.W. Fillyburn Bridge, pitfall, 26.xii.68, 27.i.69, C.L.W. Summit steep grade, north of Tiroiti, 12.xii.68, C.L.W. Near Waipiata, pitfall, 14.x.68, C.L.W. Patearoa, pitfall, 6.i.68, 2.ii.68, 15.i.69, 6.iii.69, C.L.W. Maniototo Road, near Patearoa, pitfall, 25.x.67, 6.iii.69, C.L.W. Wedderburn, pitfall, 15.x.67, 24.iii.68, 20.xi.68, 16.ii.69, 29.iii.69, C.L.W. Naseby, mid Kyeburn Road, pitfall, 21.ii.68, 20.xi.68, C.L.W. Corner Little Kyeburn Naseby-Dansey Pass Roads, pitfall, 6.i.68, 24.ix.67, 18.iv.68, 15.i.69, C.L.W. Swinburn Bridge, pitfall, 26.xii.68, 6.iii.69, 29.iii.69, C.L.W. Rock and Pillar Ecological Survey, 2 km south of Summit Rock, Ski Hut 1368m, edge of bog, pitfall, 18.i.69, 28.ii.69, J. Child. Rock and Pillar Ecological Survey, West of Middlemarch, 608m rocky hillside, pitfall, 31.xii.68, J. Child. Golden Point, Macraes Flat, 7.i.67, C.L.W. Macraes Flat Road, hill overlooking Dunback,

TURUN YLIOPISTO



Figs. 212-219 *Taieria erebus* Figs. 212-216 Lincoln, Canterbury Fig. 212 Ventral view male palp Fig. 213 Prolateral patella, tibia male palp Fig. 214 Epiqynum Fig. 215 Dorsal view patella, tibia male palp Fig. 216 Internal genitalia from above Figs. 217-218 Riverton, Southland Fig. 217 Epigynum Fig. 218 Internal genitalis from above Fig. 219 Epigynum, Oban, Stewart Island.

7.i.67, C.L.W. Evansdale Glen, 21.x.73, R.R.F. Taieri, 26.i.51, R.R.F. Dunedin, 31.x.61, 6.xi.61, 20.ii.62, 31.iii.62, W. T. Poppelwell. Dunedin, 15.x.52, xii.61, B. J. Marples. Dunedin, in house, 23.x.65. Dunedin, 10.viii.58, R.R.F. Opoho Bush, i.46, T. M. Smith. Portobello, 9.i.69, R.R.F., C.L.W. Southland. Orepuki, under logs, 9.v.44, R.R.F. Riverton, 24.xi.70, R.R.F., C.L.W. Stewart Island, Halfmoon Bay, 10.iii.51, O. Allan. Oban, 23.ii.72, C.L.W. Golden Bay, xi.59, H. W. Watt. Stewart Island, i.56, H. W. Watt.

The description is based on specimens from Lincoln, Canterbury. The two species described by Koch which are undoubtedly the male and female of the one species and both came from Canterbury. The illustrations relate closely to the species described above. One difficulty in defining species in this genus is the paucity of associated males apparently due to the short male life span. There are relatively constant differences between the epigyna of females from Otago, Southland and Stewart Island which suggests that there are a number of closely related species in the south of the South Island but much more material would be required to clearly define them. The epigyna of females from Southland and Stewart Island are illustrated (Figs. 217-219).

Taieria elongata n.sp.

Figs. 208. 220-223

FEMALE

Measurements

Carapace	length 3.0		width 2.3
Abdomen	length 4.8		width 2.9

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	2.2	1.3	1.5	1.3	0.9	7.2
2	2.0	1.2	1.4	1.2	1.0	6.8
3	1.7	0.9	1.3	1.5	0.8	6.2
4	2.4	1.4	1.8	2.3	1.0	8.9
Palp	0.8	0.5	0.5		0.9	2.7

Colour Carapace and appendages uniform orange brown. Abdomen uniform dark grey.

Eyes Ratio of AME.ALE.PME.PLE = 7.10.10.9. AME separated by 6/7 of the diameter of an AME and contiguous with the ALE. Laterals subcontiguous. PME separated by 1/2 and from the PLE by a diameter of an AME. MOQ wider behind than in front in ratio 23:20 and longer than wide in front in ratio 29:20.

Genitalia Median lobe slender and relatively longer than in all other species (Fig. 220). Internal genitalia (Fig. 221) with large oval receptacula. Receptaculum of accessory glands large.

MALE

Measurements

Carapace length 1.6 width 1.3
Abdomen length 2.2 width 1.3

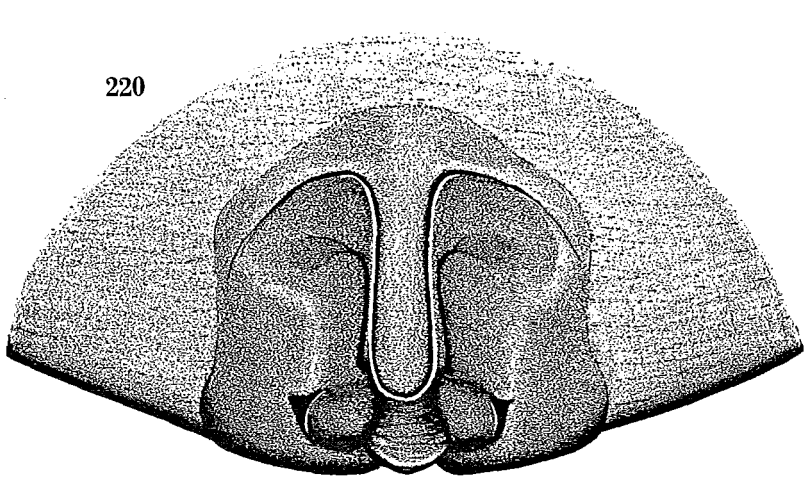
Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	1.3	0.7	1.0	0.8	0.6	4.4
2	1.1	0.7	0.9	0.7	0.6	4.0
3	0.9	0.5	0.7	0.8	0.5	3.4
4	1.6	0.8	1.1	1.3	0.6	5.4
Palp	0.6	0.3	0.2		0.6	1.7

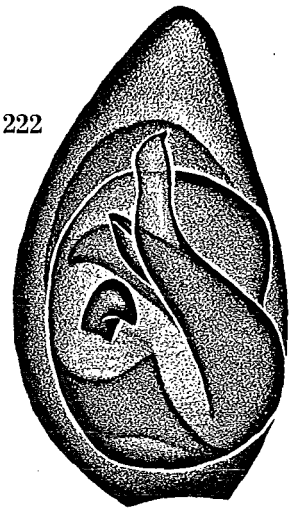
Tibial and patella process both long and slender, proximal tibial processes well developed. (Figs. 222, 223).

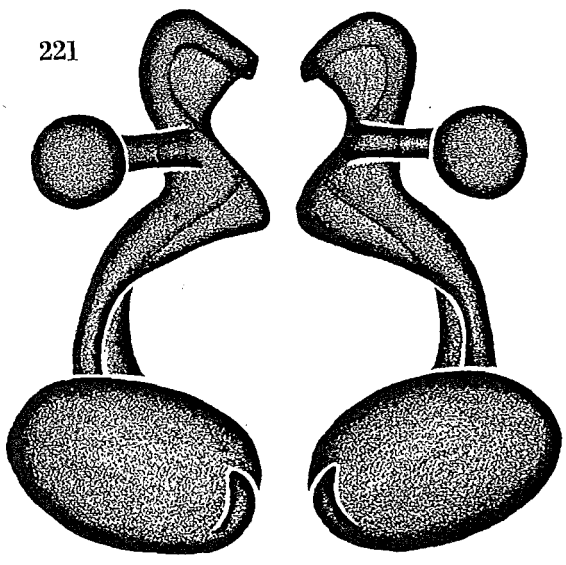
Types Holotype female, Otago. Balclutha Plant Reserve, November 20, 1958, R. R. Forster. Allotype male, between Taieri Mouth and Brighton, on bank above tide level, September 27, 1968, C. L. Wilton (Otago Museum).

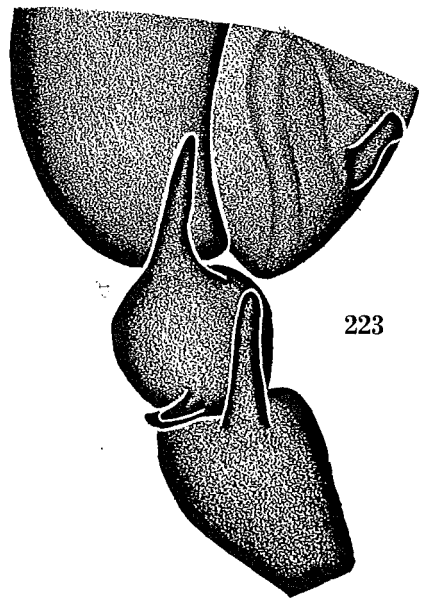
Records South Island. Otago. Allans Beach, 2.i.52, B. J. Marples. Waipori Gorge, 13.xi.70, R.R.F., C.L.W. Waipori Gorge, 11.xii.65, C.L.W. Manuka Gorge, 16.i.55, B. J. Marples. Bull Creek, under stones, 7.xi.58, R.R.F. Wanaka district i.55, B. J. Marples. Fiordland. Lake Manapouri, 6.ii.46, R.R.F.

It would seem that this species is limited to the S.E. portion of the South Island. The genitalia are distinctive.

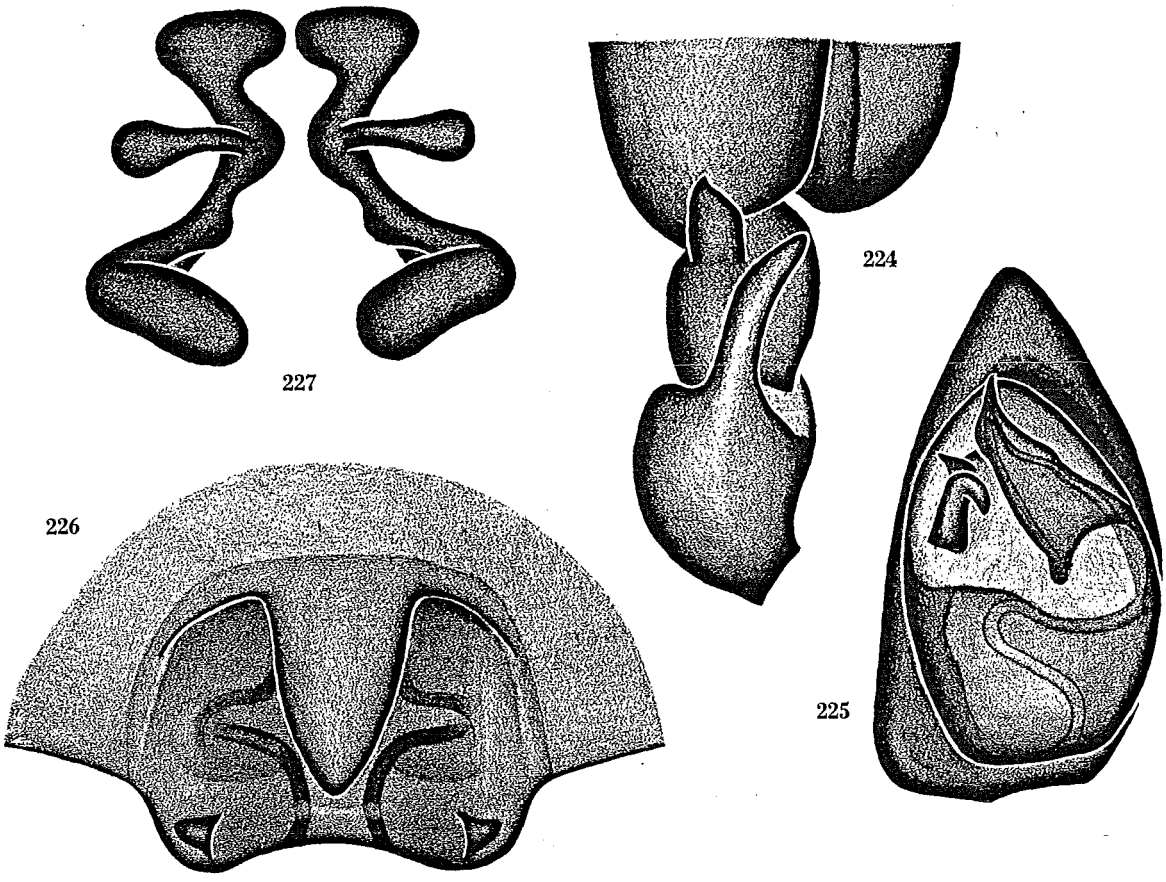








Figs. 220-223 *Taieria elongata* n. sp. Fig. 200 Epigynum Fig. 221 Internal genitalia from above Fig. 222 Ventral view male palp Fig. 223 Retrolateral patella, tibia male palp



Figs. 224-227 *Taieria kaituna* n. sp. Fig. 224 Retrolateral patella, tibia male palp Fig. 225 Ventral view male palp Fig. 226 Epigynum Fig. 227 Internal genitalia from above

Taieria kaituna n.sp.

Figs. 224-227

FEMALE

Measurements

Carapace	length 2.7	width 2.0	
Abdomen	length 3.0	width 1.9	

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	1.8	1.1	1.4	1.1	0.9	6.3
2	1.7	0.9	1.2	1.0	0.8	5.6
3	1.5	0.7	0.9	1.2	0.7	5.0
4	1.8	1.1	1.5	1.9	0.8	7.1
Palp	0.7	0.4	0.2		0.8	2.1

Colour Carapace orange brown with faint dark shading. Appendages uniform brown. Abdomen grey-black with six pale chevrons down the posterior median surface.

Eyes Ratio of AME.ALE.PME.PLE = 6.7.8.6. AME separated by 2/3 of the diameter of an AME and subcontiguous with ALE. Laterals separated by 1/3. PME separated by 1/3 and from the PLE by 2/3 of the diameter of an AME. MOQ wider behind than in front in ratio 18:16 and longer than wide in front in ratio 23:16.

Chelicerae Retromargin with one, promargin with two teeth.

Genitalia (Figs. 226-227). The median lobe of the epigynum is broad and the posterior cups widely separate.

MALE

Measurements

Carapace	length 2.5	width 1.9	
Abdomen	length 3.2	width 2.1	

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	1.7	1.0	1.2	1.0	0.8	5.7
2	1.7	1.0	1.0	0.9	0.6	5.2
3	1.4	0.7	0.9	1.1	0.7	4.8
4	1.8	1.0	1.4	1.8	0.8	6.8
Palp	0.8	0.5	0.4		0.7	2.4

Palp as in Figs. 224, 225. The broad triangular shaped conductor is distinctive.

Types Holotype male, allotype female. Canterbury, Kaituna Valley, November 1, 1966, R. R. Forster (Otago Museum).

Records North Island. Feilding, 26.xii.49, R.R.F. South Island. Canterbury, Governors Bay, under stones, 4.i.49, I. Cresswell. Kennedys Bush, 30.xi.46, R.R.F. Lincoln College, pitfall, P. A. Campbell. Marlborough. Titirangi, 22.x.69, F. A. Alcock.

The abdominal pattern separates this species from the uniform abdomen of all other recorded species, along with the distinctive form of epigynum and embolus of the male palp. The single specimen from Feilding may represent a further chevron species and is doubtfully placed as *T. kaituna*.

Taieria obtusa n.sp.

Figs. 228-233

FEMALE

Measurements

Carapace	length 2.3		width 1.8
Abdomen	length 3.5		width 2.2

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	1.6	1.0	1.1	0.9	0.6	5.2
2	1.5	0.9	1.1	0.8	0.6	4.9
3	1.2	0.7	0.8	1.0	0.6	4.3
4	1.7	0.9	1.3	1.6	0.8	6.3
Palp	0.8	0.6	0.4		0.6	2.4

Colour Carapace and appendages yellow brown. Abdomen uniform dark grey.

Eyes Ratio of AME.ALE.PME.PLE = 5.6.7.6. AME separated by 4/5 of diameter of an AME and subcontiguous with ALE. Laterals separated by 3/5. PME subcontiguous and separated from PLE by 4/5 of the diameter of an AME. MOQ wider behind than in front in ratio 16:14 and longer than wide in front in ratio 19:14.

Genitalia (Figs. 232, 233). Median lobe of epigynum relatively long and slender. Receptacula rectangular in outline, accessory glands slender.

MALE

Measurements

Carapace	length 3.1		width 2.4
Abdomen	length 3.5		width 2.3

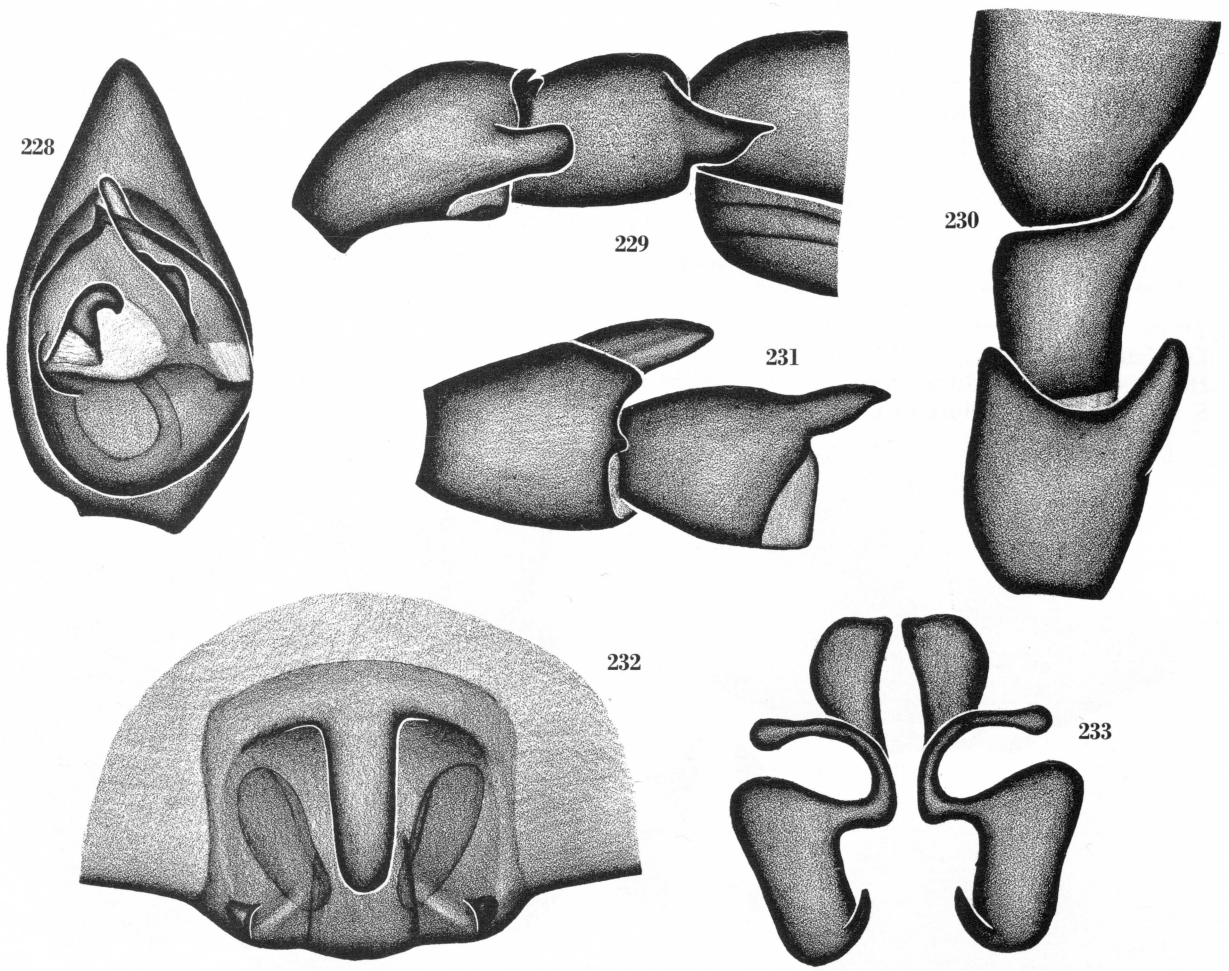
Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	2.4	1.4	1.7	1.4	0.9	7.8
2	1.9	1.1	1.4	1.3	0.8	6.5
3	1.8	1.0	1.1	1.4	0.7	6.0
4	2.4	1.4	1.7	2.3	0.9	8.7
Palp	1.0	0.4	0.4		0.7	2.5

The patella process is short, but stout, only slightly longer than the tibial process (Figs. 229-231). The bulb is shown in Fig. 228.

Types Holotype male, allotype female. Otago. Cromwell, under stones on ground, October 21, 1950, R. R. Forster (Otago Museum).

Records South Island. Otago. East branch Eweburn, pitfall, 20.xi.68, 27.i.69, C.L.W. Cromwell, 21.x.59, R.R.F.

This species is sympatric with *elongata* and both species have been found together in Cromwell. They are readily separated by the form of the genitalia in both male and female.



Figs. 228-233 *Taieria obtusa* n. sp. Fig. 228 Ventral aspect male palp Figs. 229-231 Patella, tibia male palp Fig. 229 Retrolateral Fig. 230 Dorsal Fig. 231 Prolateral Fig. 232 Epigynum Fig. 233 Internal genitalia from above

Taieria miranda n.sp.

Figs. 234-239

FEMALE

Measurements

Carapace	length 2.2	width 1.7	
Abdomen	length 3.2	width 2.1	

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	1.6	1.0	1.1	0.9	0.7	5.3
2	1.5	0.9	1.0	0.9	0.7	5.0
3	1.3	0.7	0.8	1.1	0.7	4.6
4	1.8	1.0	1.3	1.7	0.7	6.5
Palp	0.7	0.4	0.4		0.7	2.5

Colour Carapace yellowish brown with a tracery of thick black lines and shaded lateral margins. Abdomen uniform black.

Eyes Ratio of AME.ALE.PME.PLE = 4.7.7.5. AME separated from each other by 4/5 of diameter and contiguous with ALE. Laterals subcontiguous. PME subcontiguous and separated from PLE by 3/5 diameter of an AME. MOQ wider behind than long in ratio of 15:14 and longer than wide in front in ratio 18:14.

Genitalia (Figs. 234, 235). The epigynum is similar to *erebus* but the cups are smaller and the median plate below the median lobe narrower. The accessory glands on the internal genitalia are shorter (Fig. 236).

MALE

Measurements

Carapace	length 2.3	width 1.8	
Abdomen	length 2.3	width 1.4	

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	1.7	1.0	1.3	1.0	0.8	5.8
2	1.6	0.9	1.1	1.0	0.7	5.3
3	1.4	0.8	0.9	1.2	0.6	4.9
4	1.9	1.1	1.5	1.9	0.8	7.2
Palp	0.8	0.4	0.3		0.7	2.2

Palp (Figs. 237-239). Cymbium longer than in *erebus* with the embolus extending beyond the anterior margin of the bulb.

Types Holotype female. Auckland. Ohope Beach. October 1, 1969, C. L. Wilton. Allotype male. Hawkes Bay, Cape Kidnappers, 21 January, 1954, J. S. Dugdale (Otago Museum).

Records North Island. Auckland. Red Mercury Island, ix.71, D. Court. Hawkes Bay. Taradale, R. W. Hutton.

This species is readily separated from *erebus* but the paucity of material does not permit a proper appraisal of the taxonomic status of the Red Mercury Island specimens.

Notiodrassus Bryant

Notiodrassus Bryant 1935. Rec. Cant. Mus. 4(2):85.

These medium sized gnaphosids are found in forest, usually in retreats under loose bark on the trunks of trees but also under fallen logs. The pale colouration with two indistinct black bands down the carapace and distinctive abdominal pattern make them readily recognisable in the field. The genus is found only in the southern region of the South Island.

Both rows of eyes recurved. AME larger than PME. PME distinctly oval. Carapace relatively narrow in front, clothed with fine pale hairs. Abdomen without scales but closely clothed with slender plumose hairs (Figs. 155, 156) which have two pairs of basal branches. Epigynum with anterior lip (Figs. 243, 247). Male palp with a short but strong distal embolus, membraneous conductor and well developed median apophysis. Tibial process short and pointed. Legs weakly spined with a double row on ventral surfaces of tibiae and metatarsi.

Type species *Notiodrassus distinctus* Bryant 1935.

Notiodrassus distinctus Bryant

Notiodrassus distinctus Bryant 1935. Rec. Cant. Mus. 4(2):85.

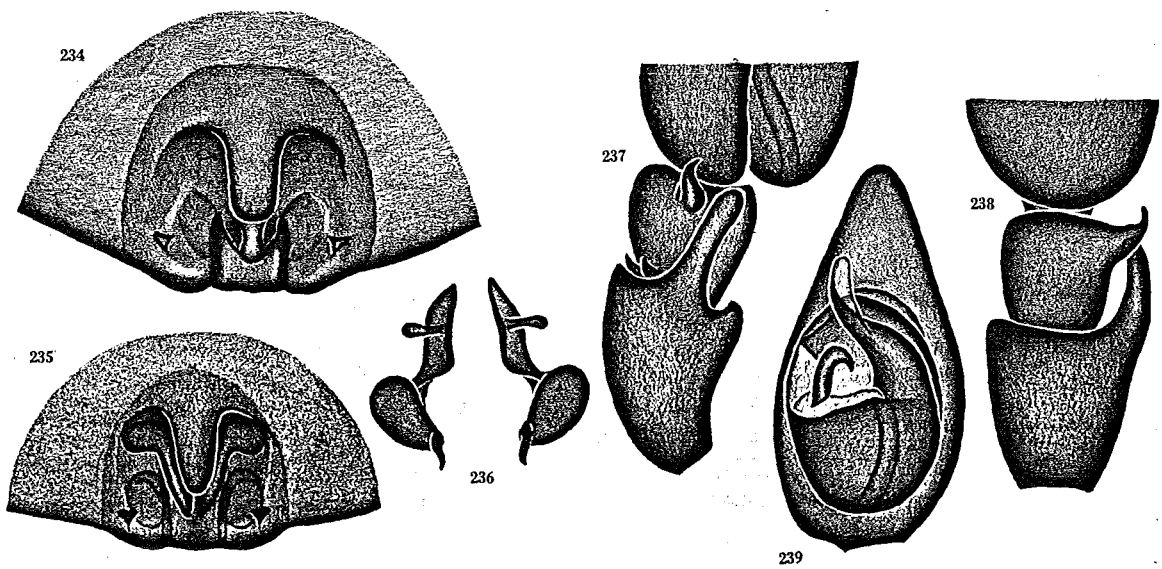
Figs. 151, 155, 176, 240, 241-244

MALE

Measurements (Holotype)

Carapace	length 3.8	width 3.3	
Abdomen	length 4.2	width 3.2	

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	3.5	1.8	3.0	2.9	1.5	12.7
2	3.2	1.7	2.8	2.8	1.7	12.2
3	2.9	1.5	2.2	—	—	—
4	3.7	1.7	2.6	3.7	1.5	13.2
Palp	1.3	0.7	0.7		1.5	4.2



Figs. 234-239 *Taieria miranda* n. sp. Fig. 234 Epiqynum, Ohope Beach. Fig. 235 Epigynum, Red Mercury Island. Fig. 236 Internal genitalia from above. Fig. 237 Retrolateral patella, tibia male palp. Fig. 238 Dorsal Fig. 239 Ventral aspect male palp.

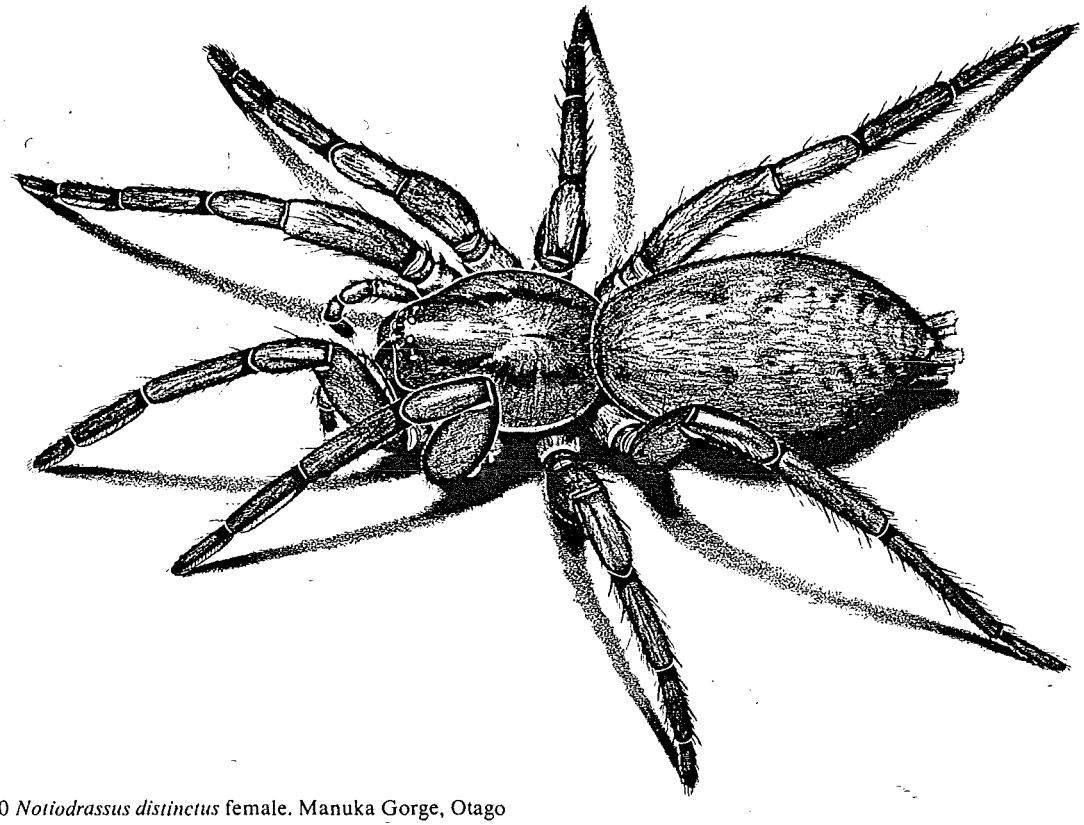


Fig. 240 *Notiodrassus distinctus* female. Manuka Gorge, Otago

Colour (Fig. 240). Carapace yellow brown with two indistinct longitudinal black bands. Abdomen creamy white with a broken chevron pattern on the dorsal surface which shows as two longitudinal rows of dark patches. Appendages uniform orange brown.

Carapace Rather low but head region distinct. Fovea distinct.

Eyes (Fig. 176). Both rows gently recurved, occupying 4/7 of the head. PME oval. Ratio of AME.ALE.PME.PLE = 8.10.7.7. AME separated by 5/8 and from the ALE by 1/8 of the diameter of an AME. Laterals separated by 5/8. PME separated by 10/8 and from the PLE by 7/8 of the diameter of an AME. MOQ wider behind than in front in ratio 24:21 and longer than wide in front in ratio 22:21. AME on a common tubercle.

Sternum Scutiform, longer than wide in ratio 5:4. Broadly pointed posteriorly.

Maxillae Parallel, longer than wide in ratio 3:2, rectangular in outline.

Labium Wider than long in ratio 33:30. Basal notches distinct.

Chelicerae Promargin with 3, retromargin with 2 teeth.

Legs Scopula on tarsi and metatarsi of legs 1,2. Weakly present on tarsi 3,4. Spines: Leg 1 femur d.1.1.0. p.1 subdistal, tibia v.1.2.0, metatarsus v.2 basal. Leg 2 femur d.1.1.0. p.0.1.1, tibia v.0.2.0, metatarsus v.2 basal. Leg 3 femur d.1.2.1.3, patella r.1, tibia v.1.2.2. r.0.1.1. p.1.1.1. d.1.0.0, metatarsus v.2.0.2. p,r. 1.1.1. d.0.1.0. Leg 4 femur d.1.2.1.3, patella r.1, tibia v.2.2.2. p,r.1.1.0. d.1.1.0, metatarsus v.2.1.2. p,r.1.1.1. d.0.1.1.

Palp (Figs. 241, 242). Tibial apophysis short, triangular. Embolus stout and branched. Median apophysis stout, wider than long and weakly hooked.

FEMALE

Measurements

Carapace	length	width
Abdomen	length	width

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	3.5	1.7	2.6	2.4	1.6	11.8
2	3.4	1.7	2.6	2.4	1.5	11.6
3	3.3	1.5	2.2	2.4	1.6	11.0
4	3.7	1.9	2.7	3.9	1.6	13.8
Palp	1.4	0.8	0.7		1.4	4.3

Similar to male genitalia as in Figs. 243, 244.

Types Holotype male. Southland. Puysegur Point, November, 1921, R. S. Sutherland (Canterbury Museum).

Records South Island. Canterbury. Lake Rubicon, 19.xi.50, R.R.F. Otago. West of Middlemarch, 912m, J. Child. Waipori, under bark, 8.vii.73, Leith Saddle, under bark, 8.vii.73, Leith Saddle, under bark, xii.74, R.R.F. Leith Saddle, 4.iii.70, R.R.F., C.L.W. Frasers Road, Dunedin, 25.x.65, C.L.W. Deborah Bay, Otago Harbour, bush, 304m, 13.v.67, C.L.W., R. W. Hutton. Otago Harbour, near Spit, 15.ii.68, R.R.F., C.L.W. Macandrew Bay, ii.70, J. Darby. Manuka Gorge, 24.vii.67, R.R.F. Akatore Creek, 16.iv.66, C.L.W. Tapanui, 25.i.51, R.R.F. Balclutha Plant Reserve, 20.xi.58, R.R.F. Horse Range, 18.xii.65, C.L.W. Southland. Orepuki, 20.x.75, R.R.F. Fiordland. Eglinton Valley, xii.61, V. O'Neill. Eglinton Flat, 16.ii.66, R.R.F.

Notiodrassus fiordensis n.sp.

Figs. 245-248

FEMALE

Measurements

Carapace	length 3.1	width 2.6
Abdomen	length 5.4	width 3.6

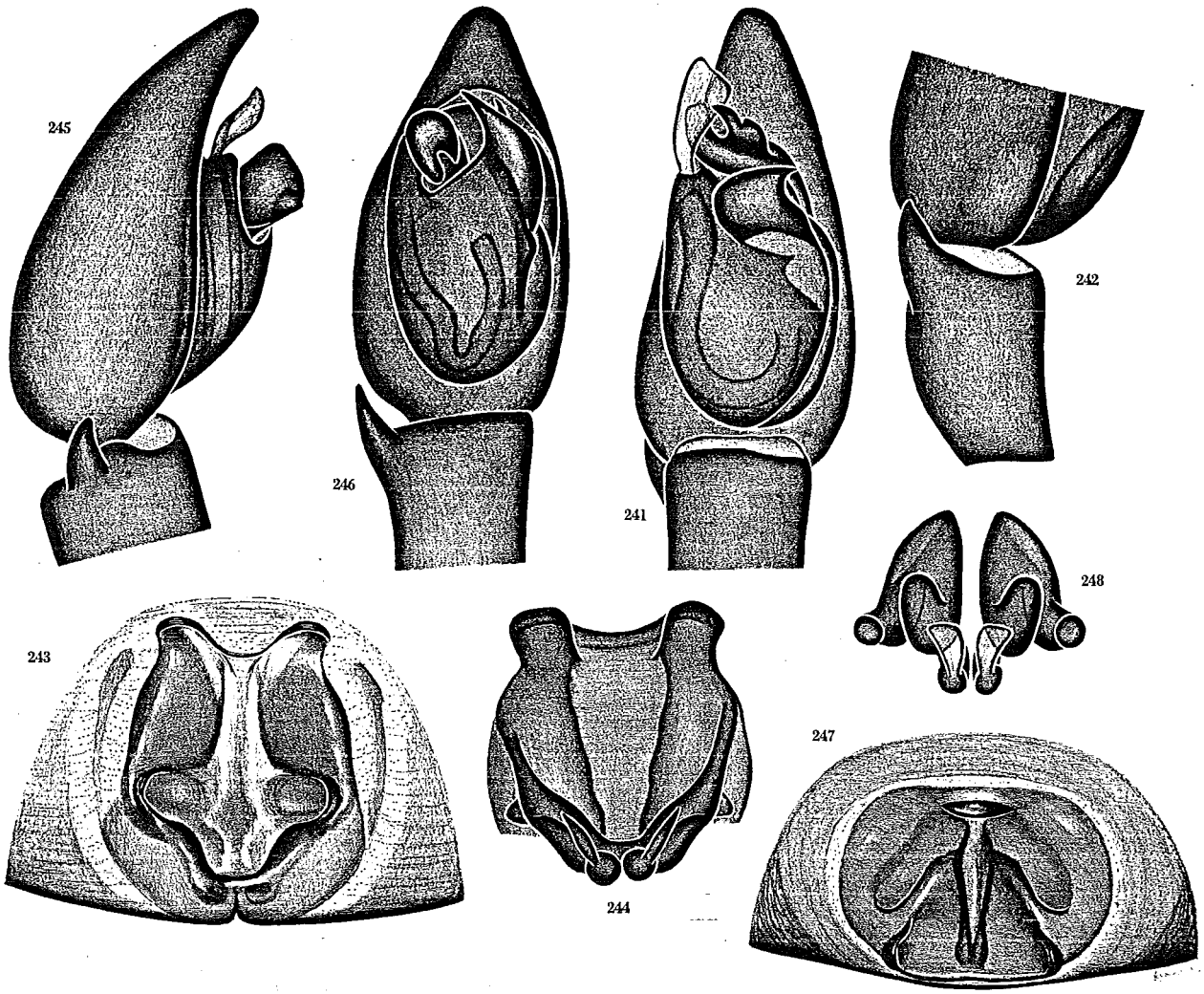


Fig. 241-244 *Notiodrassus distinctus* Fig. 241 Ventral aspect of male palp Fig. 242 Prolateral tibia male palp Fig. 243 Epigynum. Fig. 244 Internal genitalia from above Figs. 244 Internal genitalia from above Figs. 245-248 *Notiodrassus fiordensis* n. sp. Fig. 245 Retrolateral aspect of male palp Fig. 246 Ventral male palp Fig. 247 Epigynum Fig. 248 Internal genitalia from above

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	2.3	1.3	1.7	1.7	1.1	8.1
2	2.4	1.3	1.7	1.8	1.2	8.4
3	2.3	1.2	1.6	1.8	1.3	8.2
4	2.6	1.3	2.0	2.8	1.2	9.9
Palp	1.0	0.6	0.7		1.2	3.5

Colour Colour pattern similar to *distinctus.*

Eyes Ratio of AME.ALE.PME.PLE = 8.8.6.7. AME separated by 6/8 and from ALE by 2/8 of the diameter of an AME. Laterals separated by 10/8. PME separated by 10/8 and from the PLE by 11/8. MOQ as long as wide in front and behind in ratio of 11:12.

Legs Fewer spines on legs 1,2. Leg 1 tibia v.1.1.0, metatarsus v.1 basal. Leg 2 tibia v.0.1.0, metatarsus v.1 basal.

Genitalia The median ridge of the epigynum is narrower and more pronounced than in *distinctus* (Fig. 247) and the anterior lip is smaller and more strongly sclerotised. Internal genitalia as in Fig. 248.

MALE

Measurements

Carapace	length 3.0	width 2.6
Abdomen	length 4.4	width 2.5

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	2.6	1.3	2.1	2.2	1.3	9.5
2	2.5	1.3	2.1	2.2	1.3	9.4
3	2.3	1.2	1.6	2.0	1.3	8.4
4	2.8	1.3	2.0	2.9	1.2	10.2
Palp	1.0	0.5	0.5		1.2	3.2

The tibial process of the male palp is smaller than in *distinctus* and the embolus more pointed distally. (Figs. 245, 246).

Types Holotype male, allotype female. Fiordland. Caswell Sound, leaf litter, April 18, 1949, R. R. Forster (Otago Museum).

Records South Island. Westland. Rough Creek near Maruia Springs Hotel, 12.ii.69, C.L.W. Lake Moana, 10.iii.59, R.R.F. Lake Moana, 2.xii.29, Open Bay Islands, pitfall in *Freycinetia banksii*, 10.ii.71, 11.ii.71, M. E. Miller. Canterbury. Arthurs Pass, Bealey River, under stone, 7.vii.74, A.D.B. Fiordland. Caswell Sound, 21.iii.49, R. K. Dell. Hidden Falls, Hollyford Valley, *Polystichum vestitum* litter, 6.i.67, A. K. Walker.

Matua n.gen.

Eight eyes in two rows. Anterior row gently recurved while the posterior row is equally procurved. AME equal in size or larger than PME. PME only slightly oval. Laterals subcontiguous. MOQ almost equilateral.

Abdomen uniformly clothed with scales which are wider distally where the margin is serrated. Two or three pairs of basal branches (Fig. 161). The plumose hairs on the legs (Fig. 160) are of similar form but slender with lateral branches extending more than one half of the length of the hair. Spinnerets typical for the family with the anterior pair tubular and widely separated. Colulus represented by a bunch of hairs. Chelicerae with two teeth on each margin. Sternum scutiform, longer than wide. Labium longer than wide. Spination of tibia and metatarsus of legs 1,2 reduced on the ventral surface; tibia with a broken double row and metatarsus with two basal. Epigynum with the form shown in Figs. 252, 254. Internal genitalia a single pair of large receptacula (Fig. 253). Male palp with simple spinous tibial process. Bulb with processes distally situated. Embolus short, stout, conductor membraneous and median apophysis spoon-shaped (Figs. 250, 251). Bothria typical with transverse ridges. Tarsal organ small, distal with a small round opening.

Type species *Matua valida* n.sp.

Restricted to Otago and Canterbury. The spiders have been found under stones in Otago and under logs in disturbed beech forest in Canterbury. Both species appear to have a very limited distribution.

Matua valida n.sp.

Figs. 160, 161, 249-253

MALE

Measurements

Carapace	length 2.8		width 2.2
Abdomen	length 3.7		width 2.5

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	2.6	1.4	2.3	2.2	1.2	9.7
2	2.4	1.3	2.2	2.0	1.1	9.0
3	2.1	1.2	1.5	1.7	0.9	7.4
4	2.6	1.2	1.9	2.6	1.1	9.4
Palp	1.1	0.5	0.4		1.0	3.0

Colour Carapace orange yellow, without markings. Abdomen metallic silver grey in life.

Eyes Anterior row gently procurved. Posterior row slightly recurved. PME distinctly oval. Eyegroup occupies 5/6 of the width of the head. Ratio of AME.ALE.PME.PLE = 5.6.5.5. AME separated from each other by 4/5 and from ALE by 2/5 of the diameter of an AME. Laterals subcontiguous. PME separated by 5/5 and from the PLE by 6/5 of the diameter of an AME. MOQ only slightly wider behind than in front and as long as wide in front.

Sternum Longer than wide in ratio 7:5. Anterior margin straight and lateral margins evenly curved with projections at the base of each coxa. Posterior projection short and pointed.

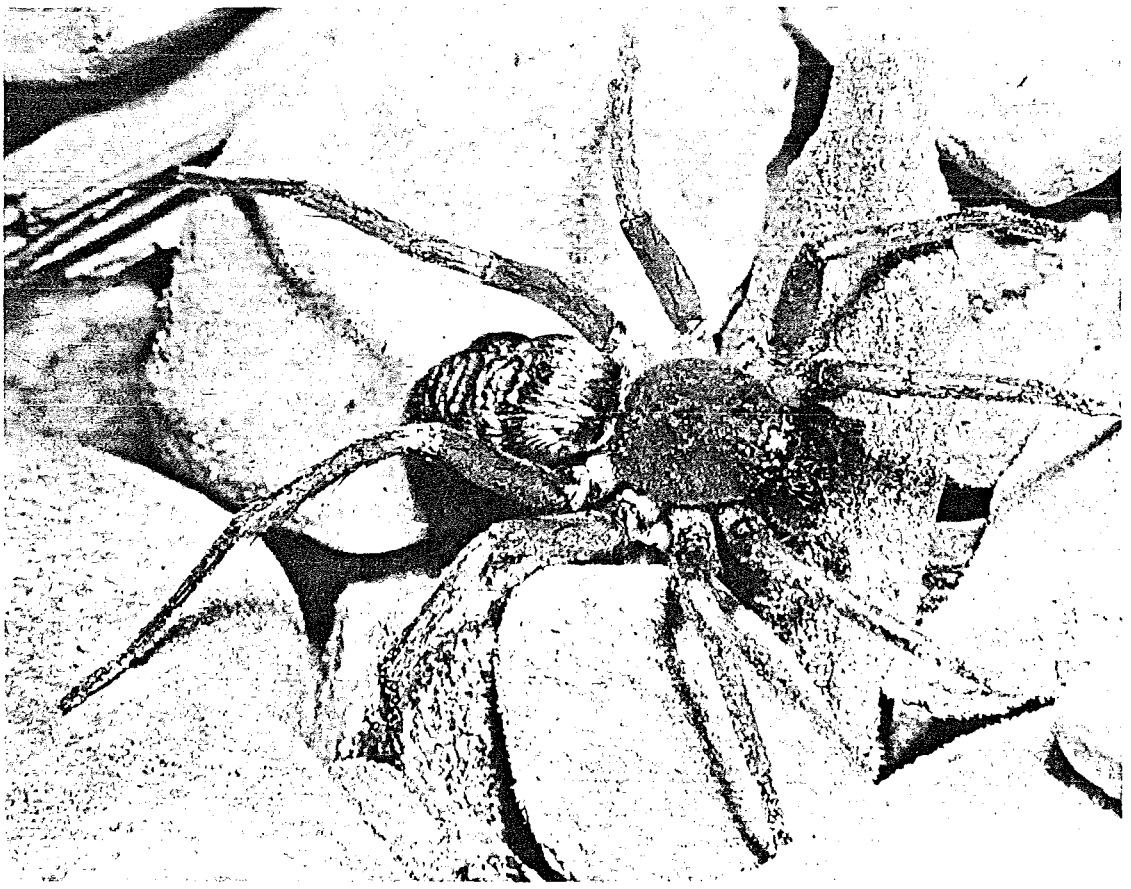


Fig. 249 *Matua valida* n. sp. Female. Lake Hawea, Otago

Maxillae Parallel. Basal half swollen. Distal outer margin curved. Longer than wide in ratio 12:7.

Labium Longer than wide in ratio 11:9. Lateral margins straight, strongly convergent. Anterior margin straight.

Chelicerae Two teeth on each margin.

Legs Scopula on tarsi not thick and weakly developed on metatarsi. Spines: Leg 1 femur p.1 subdistal, tibia v.1.1.2, metatarsus v.2 proximal. Leg 2 femur d.1 proximal, p.0.1.1, tibia v.0.1.0, metatarsus v.2 proximal. Leg 3 femur d.1.1.3, tibia v.1.2.2. p,r.1.1.1, metatarsus d.2.2.2. p,r.1.1.1. v.2.2.2. Leg 4 femur d.1.1.3, tibia v.2.2.2. p,r.1.1.1, metatarsus d.2.2.2. p,r.1.1.1. v.2.2.2.

Abdomen Anterior spinnerets tubular and widely separated. Colulus represented by irregular hairs. Palp as in Figs. 250, 251. Tibial apophysis a simple short spine. Embolus short and stout distal with a membraneous conductor. Median apophysis a spoon-shaped structure.

FEMALE

Measurements

Carapace	length 3.5	width 2.5	
Abdomen	length 6.0	width 3.7	

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	2.4	1.4	2.0	1.9	1.2	8.9
2	2.5	1.4	1.9	1.8	1.2	8.8
3	2.4	1.3	1.6	1.9	1.2	8.4
4	3.0	1.4	2.3	2.8	1.3	10.8
Palp	1.1	0.5	0.6		1.0	3.2

Genitalia As in Figs. 252, 253. The anterior lip of the epigynum is narrow but extends over most of the width. Internal genitalia with two large receptacula but short ducts.

Types Holotype male, allotype female. Otago, Cromwell, under stones, 7 November, 1958, R. R. Forster (Otago Museum).

Records South Island. Westland. Greymouth, 11.iv.67, 11.vi.67, R. R. Hutton. Otago. Shannon Creek, 18.iii.62, W. T. Poppelwell. Alexandra, under stones, 18.xi.56, R.R.F. Alexandra, 7.x.59, R.R.F. Cromwell, under stones, 21.iii.74, 7.xi.58, R. R. Forster. Near Dunstan Downs Station, on rock face, 26.vii.67, Arrowtown, under stones, 12.iii.69, R.R.F. Cadrona Valley, under rocks, 6.ii.70, C.L.W. Wanaka, i.54, i.55, B. J. Marples. Hawea, underside rock, on beach, 30.i.75, R.R.F. Hawea, lakeshore, with eggs in retreats, 30.iv.75, R.R.F. Lindis, 26.i.70, R.R.F. Southland. Takitimu Mts. ii.68, J. I. Sutherland. Fiordland. Tunnelburn Valley, 912m, xii.49, B. Wisely.

Restricted to open rocky areas this species has been found mainly in Central Otago. The spiders construct retreats beneath stones.

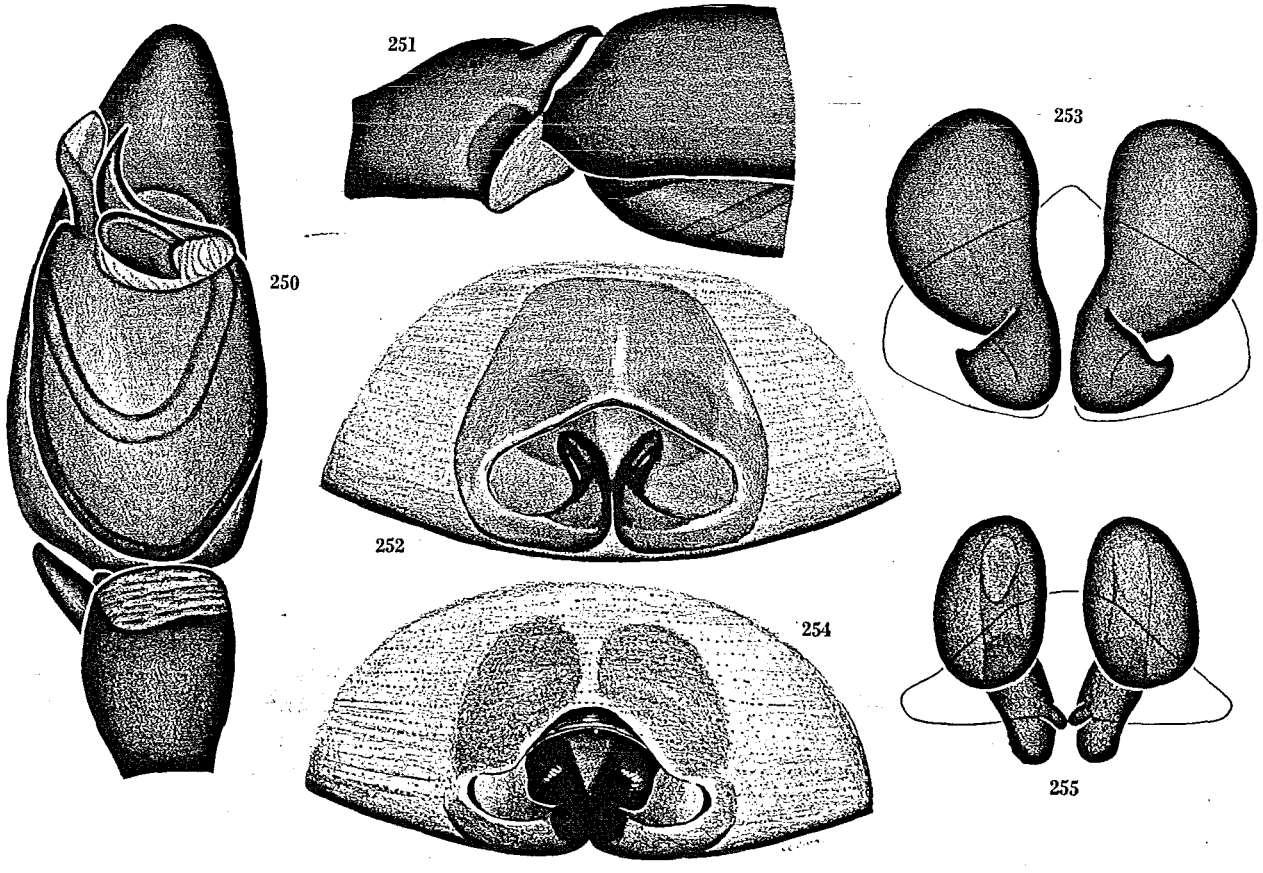
Matua festiva n.sp.

Figs. 254-255

FEMALE

Measurements

Carapace	length 3.3	width 2.4
Abdomen	length 4.4	width 2.7



Figs. 250-253 *Matua valida* n. sp. Fig. 250 Ventral view male palp Fig. 251 Retrolateral tibia male palp Fig. 252 Epigynum Fig. 253 Internal genitalia from below Figs. 254-255 *Matua festiva* n. sp. Fig. 254 Epigynum Fig. 255 Internal genitalia from below

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	2.3	1.3	1.9	1.8	1.2	8.5
2	2.4	1.4	1.8	1.7	1.0	8.3
3	2.3	1.1	1.5	1.8	1.0	7.7
4	2.9	1.5	2.1	2.9	1.2	10.6
Palp	1.1	0.6	0.6		1.0	3.3

Similar in most characters to *valida*.

Eyes Ratio of AME.ALE.PME.PLE = 8.8.6.7. The relative spacing of the eyes is as in *valida*.

Legs Spines: Leg 1 femur d.1 median. p.1 subdistal, tibia v.0.1.1, metatarsus v.2 basal. Leg 2 similar but with femur p.0.1.1. Leg 3 femur d.2.1.1, tibia v.1.2.2. p,r.1.1.1, metatarsus v.2.2.0. p.r.1.1.1. Leg 4 femur d.1.1.2, tibia v.2.2.2. p,r.1.1.1, metatarsus v.2.2.2. p.1.1.1. r.1.1.2.

Genitalia The anterior lip of the epigynum is more strongly developed and narrower (Fig. 254). The internal receptacula are oval with tubular ducts leading to the external openings (Fig. 255).

Types Holotype female. Canterbury, Lake Rubicon, 14 November, 1950, R. R. Forster (Canterbury Museum). A number of females were collected with the type but the male is not known.

Records South Island. Canterbury. Lake Rubicon, 19.xi.50, R.R.F.

Kaitawa n.gen.

Chiracanthium (in part) Marples 1956. Rec. Auckl. Inst. Mus. 4(6):332.

This monotypic genus is established to contain the unusual species recorded by Marples (1956) from the Three Kings Islands. Only a single male specimen was available at the time of description and unfortunately only a few more males have been collected since. The female is not known. The species appears to be restricted to the Three Kings Islands and is quite distinct from any other New Zealand gnaphosids. Probably related forms will be found in Australia but I have not been able to relate the New Zealand genus to any of the described Australian species from the literature.

The elongate abdomen immediately distinguishes these spiders from all other New Zealand forms except the introduced *Lampona cylindrata*.

The anterior row of eyes is very slightly recurved but the posterior row is straight. AME much larger than the PME which is moderately oval. Laterals subcontiguous and MOQ substantially equilateral. Carapace squat with head region not substantially narrower than the thoracic region. Surface coriaceous, not granulate and fovea distinct. Sternum scutiform but with the narrow anterior ledge as in *Lampona* and *Hemicloea* (Figs. 180, 174, 177). Labium longer than wide without basal notches. Maxillae with prominent proximal swelling and widest distally. Chelicera with two teeth on each margin. Leg 1,2 with only weak scopula on metatarsus and tarsus. Tibia of legs 1,2 with a single minute ventral spine and metatarsi with 2 ventro-basal spines. Claw tufts well developed. Abdomen without scales. Spinnerets typically gnaphosid with anterior pair long and tubular but closely spaced. Male palp long and slender. Cymbium elongate with a small ventral opening which occupies less than one half of the length. Bulb extremely small and simple with a short stout distal spinous embolus and a translucent lateral plate. No median apophysis (Figs. 256, 257). Tibial process short and pointed.

Type species *Chiracanthium insulare* Marples 1956

There is little doubt that the genus should be placed in the Gnaphosidae although the simple elongate palp, reduction in spination and the contiguous spinnerets does explain the initial placement of the species in the Clubionidae.

Kaitawa insulare (Marples)

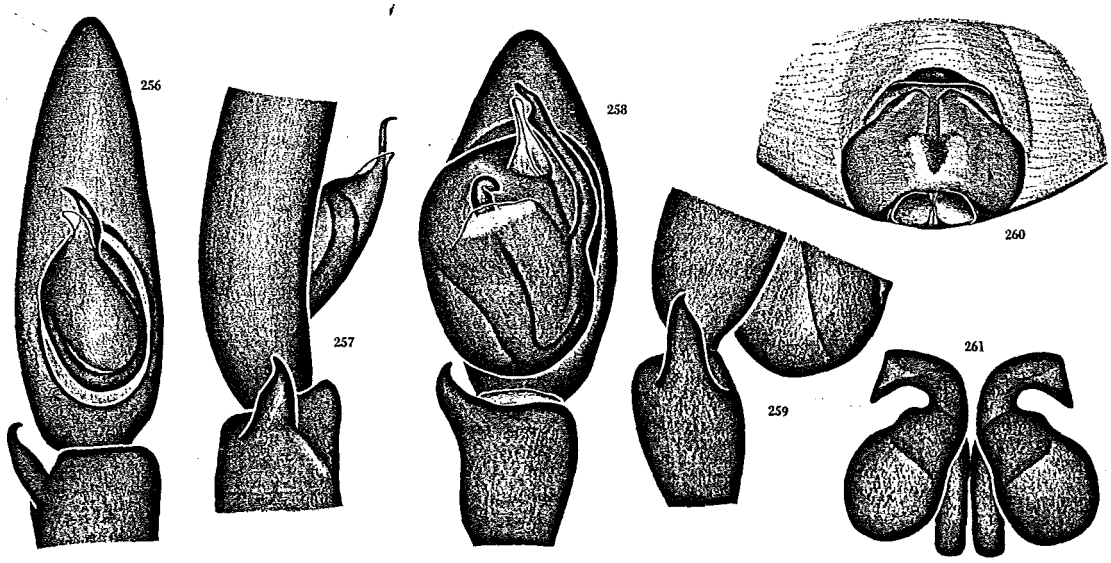
Chiracanthium insulare Marples 1956. Rec. Auckl. Inst. Mus. 4(6):332.

Figs. 180, 256-257

MALE

Measurements

Carapace	length 4.4	width 3.4
Abdomen	length 6.5	width 2.4



Figs. 256-257 *Kaitawa insulare* Fig. 256 Ventral view male palp Fig. 257 Retrolateral male palp Figs. 258-261 *Intruda signata* (Hogg) Fig. 258 Ventral view male palp Fig. 259 Retrolateral view tibia male palp Fig. 260 Epigynum Fig. 261 Internal genitalia from below

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	3.6	2.0	3.4	3.3	1.3	13.6
2	3.3	2.0	2.7	2.7	1.2	11.9
3	3.0	1.5	2.2	2.5	1.1	10.3
4	3.9	1.9	4.0	3.3	1.4	14.5
Palp	1.7	0.8	0.9		1.1	4.5

Colour Carapace dark brown, appendages paler. Abdomen pale brown with five narrow chevrons posteriorly.

Eyes Anterior row slightly recurved, posterior row straight. Occupying 5/7 of the width of the head. Ratio of AME.ALE.PME.PLE = 12.12.8.10. PME slightly oval. AME separated from each other by one half and from the ALE by one quarter of the diameter of an AME. Laterals separated by 5.12. PME separate from each other by 14/12 and from the PLE by 12/12 of the diameter of an AME. MOQ as wide behind as in front and shorter than wide in front in the ratio of 27:30.

Carapace Relatively squat. Fovea distinct but not deep. Width of head : thoracic region = 35:47.

Sternum, maxillae and labium as in Fig. 180. Maxillae with proximal swelling pronounced.

Chelicerae Strong and porrect. Two strong teeth on each margin.

Legs Legs 1,2 with weak scopula on metatarsi and tarsi. Claw tufts well developed. Spines: Leg 1,2 femur d.1 proximal. p.1 distal, tibia 1 small spine on mid proventral surface, metatarsus v.2 basal. Leg 3 femur d.1.1.0. p.1.1.0. r.0.0.1, tibia v.2.2.2. p.0.0.1. r.0.1.1, metatarsus v.2.2.1. p,r.0.1.1. Leg 4 other than a row of bristles along the dorsal femur there are no spines. Thick disto-ventral preening combs on metatarsi 3,4.

Abdomen Long and slender. Antero-dorsal surface with a sclerotised plate. Anterior spinnerets long and cylindrical.

Palp (Figs. 256, 257). Tibial process short and spinous. Cymbium long and narrow with the bulb restricted to the basal half. Bulb simple with a short terminal embolus and membraneous conductor. No median apophysis.

Type Holotype male. Great Island, Three Kings Islands (Auckland Museum).

Records Three Kings Islands, Hapuka Point, under bark, xi.70, J. C. Watt. Great Island, 1.i.63,-3.i.63, E. S. Gourlay.

Only three male specimens have been collected, all from the Three Kings Islands.

Nauhea n.gen.

Shining black spiders between 2-3mm long. Eyes in compact group occupying little more than one half of the width of the head. AME smaller than PME. Anterior row recurved, posterior row straight. MOQ narrower in front than behind or long. First pair of legs distinctly stouter than second pair. Scopula and claw tufts weakly developed. Tibia and metatarsus of legs 1,2 with a double row of spines but reduced to single pair on the metatarsus. Spinnerets tubular with anterior pair widely separate. Colulus represented by a few hairs. Male palp with small spinous apophysis. Bulb with small spinous embolus membraneous conductor and median apophysis situated distally. (Figs. 262, 263). Epigynum weakly sclerotised (Fig. 264). Internal genitalia with two pairs of spherical receptacula (Fig. 265). Abdominal scales as in Fig. 159. The scales are the most distinctive of all the New Zealand gnaphosids with a few minute lateral branches near the base, obtuse distally with a slender apical spine.

Type species *Nauhea tapa* n.sp.

The single species occurring in New Zealand is found throughout the South Island and is probably also common in the North Island. An immature specimen has been collected from Campbell Island but the lack of other material from the extensive collections made in the subantarctic islands suggests that the genus if present is rare or alternatively is only now becoming established. The widespread distribution of the single species follows the pattern typical of recently introduced spiders and some doubts must be held that the genus is endemic. While *N. tapa* is commonly found in forest litter and also in tussock it is also characteristic of pasture and other disturbed habitats.

Nauhea tapa n.sp.

Figs. 159, 262-265

MALE

Measurements

Carapace	length 1.1	width 0.1	
Abdomen	length 1.6	width 1.0	

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	0.8	0.5	0.7	0.5	0.4	2.9
2	0.8	0.4	0.5	0.4	0.4	2.5
3	0.6	0.3	0.4	0.4	0.3	2.0
4	0.8	0.5	0.6	0.7	0.4	3.0
Palp	0.3	0.2	0.1		0.3	0.9

Colour Carapace brown and strongly veined with black. Abdomen a shiny dark metallic grey or black. Legs dark brown with black patches.

Carapace Relatively squat and low. Head region not clearly defined. Fovea absent.

Eyes Group occupies 7/12 of the head width. Anterior row recurved, posterior row straight. Ratio of AME.ALE.PME.PLE = 3.8.5.7. AME separated from each other by 4/3 of the diameter of an AME and subcontiguous with the ALE. Laterals separated by 5/3. PME separated from each other by 4/3 and from the PLE by 2/3. MOQ wider behind than in front in ratio 7:5 and longer than wide in front in ratio 8:5.

Sternum Relatively broad. Longer than wide in ratio 31:24.

Maxillae Slightly convergent. Proximal half swollen, wider than distal portion. Wider than long in ratio 11:10.

Labium Lateral margins gently curved and convergent. Basal notches shallow. As long as wide at the base.

Chelicerae Two teeth on each margin.

Legs First pair of legs stoutest. Scopula and claw tufts weak. Spines: Leg 1 femur d.1 at one third, p.1 distal, tibia v.2.2.0, metatarsus v.0.2.0. Leg 2 femur d.1 at one third. p.1 distal, tibia v.1.1.0, metatarsus v.0.2.0. Legs 3,4 femur d.1 at one third, tibia v.2.2.2, metatarsus v.0.2.1. Leg 4 has a small retrodistal spine on the tibia. Small preening combs on the distal surfaces of the metatarsi of legs 3,4.

Abdomen Posterior spinnerets tubular and separated by the width of a spinneret. Colulus represented by few hairs.

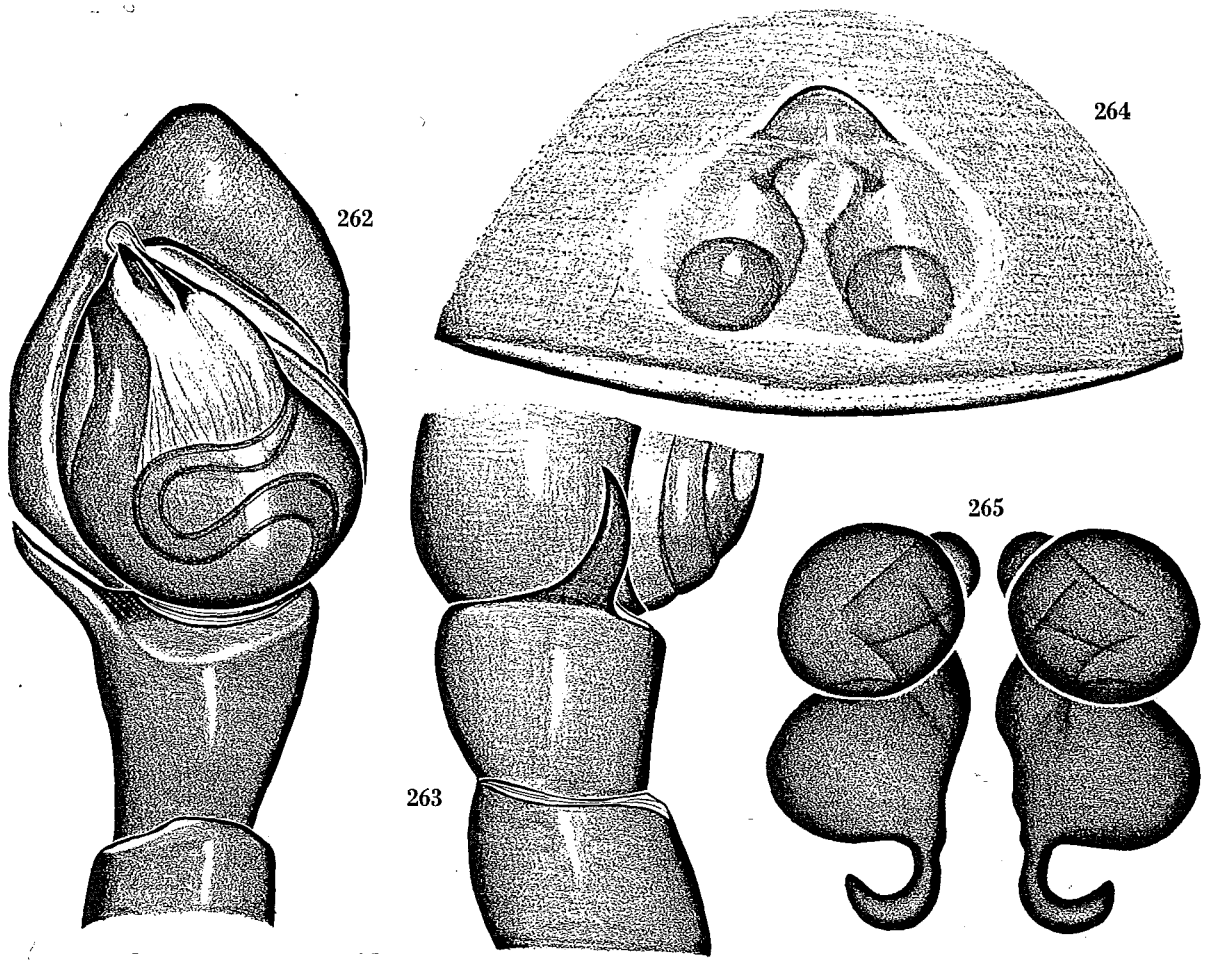
Palp The bulb is simple with three short elements distally. The embolus is short and sharp with a membraneous conductor. The third structure would appear to represent the median apophysis but it is apparently fused to the tegulum (Figs. 262, 263).

FEMALE

Measurements

Carapace	length 0.9	width 0.7	
Abdomen	length 1.2	width 0.8	

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	0.7	0.4	0.5	0.4	0.3	2.3
2	0.6	0.3	0.4	0.3	0.3	1.9
3	0.5	0.3	0.3	0.4	0.3	1.8
4	0.7	0.4	0.6	0.6	0.4	2.7
Palp	0.2	0.1	0.1		0.3	0.7



Figs. 262-265 *Nauhea tapa* n. sp. Fig. 262 Male palp, ventral view Fig. 263 Retrolateral tibia male palp Fig. 264 Epigynum Fig. 265 Internal genitalia from above

Similar to the male. The epigynum is weakly sclerotised. The openings are distal near a small median mound (Fig. 264). Internal genitalia with two pairs of receptacula (Fig. 265).

Types Holotype male. Otago. Swinburn Bridge, pitfall trap, 26 December, 1968, C. L. Winton. Allotype female. Same locality, pitfall trap, 24 March, 1968, C. L. Wilton (Otago Museum).

Records North Island. Auckland. Whakatane near Hill Cemetery, pitfall, 2.x.69-6.x.69, C.L.W. Moanatuatua Swamp, 23.vi.74, A.D.B. Mt. Ruapehu, Blyth Hut track, moss mixed Beech-pine forest, 7.xi.60, B. A. Holloway. Mangareia, Masterton, ix.46, C.L.W. South Island. Nelson. Pelorus Valley, 210m, moss 65/388, 13.vii.65, J. I. Townsend. Rabbit Island, moss 66/148, 17.v.66, J. I. Townsend. Mt Arthur, 1280m, litter 71/87, 22.iii.71, A. C. Eyles. Italians Creek, Capleston Bridge, moss-73/12, 12.i.73, H. P. McColl. Dun Mountain Track, litter, 69/187, 6.xi.69, J. C. Watt. Dun Mountain, 698m, moss 66/273, A. K. Walker. Capleston Beetle Reserve, 243m, Redmans Creek, litter 73/107, 6.iv.73, J. C. Watt. Red Hill, Collins Valley, 240m, litter, 12.xii.66, J. I. Townsend. Fell Peak, 1300m, Richmond Ranges, mats 69/1101, 13.iii.69, A. C. Eyles. Ridge on Waingaro Range 456m, Takaka, lichen 65/446, 29.viii.65, A. K. Walker. Lake Sylvester, 1426m, Cobb, Swards 69/140, 29.iv.69, Mt. Chrome Plateau, 1250m, litter 72/154, 23.iii.72, J. S. Dugdale. Marlborough. Ward, pitfall near motor camp, 16.iii.69-25.iii.69, R.R.F., C.L.W. Kaikoura, grass roots, 18.v.74, A.D.B. Wakamarina Valley, moss 66/233, 12.xii.66, A. K. Walker. Canterbury. Arthurs Pass, Temple Basin, 1210m, stones, 24.xi.74, A.D.B. Lewis Pass, tussock, 25.iv.77, R.R.F. Arthurs Pass, on track to Magnet Tarn, leaf litter, 12.viii.57, R. L. Pilgrim. Waimakariri near Bealey, 29.ix.66, R.R.F., C.L.W. Christchurch Airport, pasture, 24.iv.48, A. Moeed. Alford Forest, Stavely, moss 66/210, 14.vii.66, A. D. Low. Westland. Aichens-Otira, stones, 24.xi.74, A.D.B. Mt. Dewar, 1697m, Paparoa Range, moss 69/240, 2.xii.69, J. I. Townsend. Otago. Hilderthorpe, latitude 45°S, highway, pitfall, 1.xi.69-3.xi.69, C.L.W. Dunback-Macraes Road, pitfall, C.L.W. Summit Taieri Ridge, Deep Dell-Fillyburn, pitfall, 14.x.67, 6.xii.67, 27.i.69, C.L.W. Hyde, pitfall, 14.x.67, 24.iii.68, 18.iv.68, 27.i.69, 29.iii.69, C.L.W. Summit steep grade, north of Tiroiti, pitfall, 14.x.67, 27.i.68, 15.i.68, 26.xii.68, C.L.W. Kokonga School, pitfall, 15.xi.67, 27.xi.67,

16.i.68, 12.xii.68, 27.i.68, C.L.W. Near Waipiata, pitfall, 6.xii.67, 16.xii.67, 20.xi.68, 12.xii.68, 27.i.69, C.L.W. Patearoa, pitfall, 16.i.68, C.L.W. Maniototo Station Road, near Allison Lane, pitfall, 20.xi.68, 26.xii.68, 15.i.69, C.L.W. Near Naseby Forest, pitfall, 9.ii.68, C.L.W. Naseby mid Kyeburn Road, 12.xii.68, C.L.W. Corner, Little Kyeburn Naseby-Dansey Pass Roads, pitfall, 16.xii.67, 12.xii.68, C.L.W. Swinburn Bridge, pitfall, 15.i.69, 6.iii.69, C.L.W. Outram-Hindon Road, 3 km from Outram Bridge, pitfall, 1.xii.69-13.xii.69, C.L.W. Flagstaff, pitfall, 7.ii.71-21.ii.71, C.L.W. Slope of Flagstaff, 18.x.53, B. J. Marples. Flagstaff tussock, 10.xii.75, R.R.F. Cairnhill Street, Dunedin, in garden, 1.xi.53, B. J. Marples. Top of Rock and Pillar, 21.ii.54, B. J. Marples. Waitahuna Bridge, Lawrence-Waipori Road, pitfall, 2.i.70, C.L.W. 6km South Alexandra, moss and lichen, 6.v.64, T. Wood. Cromwell Gorge, 2km south east of Cromwell, East bank of Clutha, 21.xi.74, J. C. Watt. Cadrona Valley, Crown Range, 18.xii.52, B. J. Marples. Tapanui forest, 3.xi.61, Fiordland. Simonin Pass, West Olivine Range, litter in *Nothofagus* forest edge, 75/36, 1975, G. W. Ramsay. Cascade Face, Red Mountain, West Olivine Range, litter from tussock, 75/54, 1975, G. W. Ramsay. Southland. 17km south west Clinton, moss amongst tussock and fern, 66/360, 3.xi.66, J. I. Townsend. Centre Island, ix.75, A. Wright. Stewart Island. South Peak, Big South Cape Island, 11.xi.68, G. Kuschel. North Peak, Big South Cape Island, 220m, 8.xi.68, G. Kuschel.

This small active spider is usually collected from litter. It is particularly abundant in tussock and pasture. The few records from the North Island probably reflect the few suitable areas collected rather than the apparent rareness of the species.

Anzacia Dalmas 1920

Drassodes (part) Simon 1893. Hist. Nat. Araign. 1(2):361. Simon 1908. Faun. Sudwest Austr. 2(13):387. Dalmas 1917. Ann. Ent. Soc. Fr. 86:345.

Leptodrassus (part) Rainbow 1902. Proc. Linn. Soc. N.S.W. 26:522.

Anzacia Dalmas 1920. Bull. Mus. hist. nat. p.249. Petrunkevitch 1928. Trans. Connect. Acad. Arts Sc. 29:151. Berland 1932, Encycl. Ent. 16:345.

Type species *Anzacia perexigua* (Simon 1880) Australia and New Caledonia.

Anzacia is basically an Australian genus which extends to New Caledonia and New Hebrides. The sole New Zealand species seems to be very close to the type species and the possibility must remain that the two species are synonymous and that *A. gemmea* is yet another introduced species. The descriptions and illustrations of the previously described species are not clear enough to establish any synonymies and I have not been able to secure adequate comparative material to reach any definite conclusion.

The genus may be separated from all other genera in New Zealand by the combination of the following characters.

Anterior row of eyes straight and posterior gently procurved. AME distinctly smaller than PME. PME oval. Chelicerae with two retromarginal and five promarginal teeth. Epigynum weakly sclerotised with small cup beyond the paired openings from the genitalia (Fig. 268). Internal genitalia with a single pair of large spherical receptacula. Male palp with a short distally directed embolus and membraneous conductor, well developed median apophysis and a further structure on the prolateral surface of the tegulum. Tibial apophysis short (Fig. 267). Abdominal scales lanceolate with two pairs of basal branches and the anterior margins serrate (Fig. 157).

Anzacia gemmea (Dalmas 1917)

Drassodes gemmeus Dalmas 1917. Ann. Soc. ent. Fr. 86:345.

Anzacia gemmea Dalmas 1920. Bull. Mus. hist. nat. p.249.

Figs. 157, 179, 266-269

FEMALE

Measurements

Carapace	length 1.9		width 1.5
Abdomen	length 3.3		width 2.0

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	1.4	0.7	1.0	0.8	0.7	4.6
2	1.2	0.7	0.8	0.7	0.7	4.1
3	1.1	0.6	0.7	0.9	0.5	3.8
4	1.5	0.8	1.2	1.4	0.8	5.7
Palp	0.6	0.3	0.3		0.5	1.7

Colour Carapace and legs pale yellowish brown. Abdomen silvery and shining in life but straw yellow in spirit.

Carapace Low with the head region not strongly distinct. Ratio of width of head to thorax 10:17. Fovea distinct. Clothed with small pale hairs.

Eyes Group occupies 16/25 of the head width. PME distinctly oval. Anterior row straight. Posterior gently procurved. Ratio of AME.ALE.PME.PLE = 5.7.7.6. AME separated from each other by 5/5 and from the ALE by 2/5 of the diameter of an AME. Laterals subcontiguous. PME separated by 4/5 and from the PLE by 7/5 of the diameter of an AME. MOQ wider behind than in front in ratio of 18:15 and longer than wide in front in ratio of 17:15. Clypeus distinct, 3/5 of the diameter of an AME.

Sternum Scutiform, longer than wide in the ratio of 5:4.

Maxillae Parallel, longer than wide in ratio 15:8. Basal portion swollen and wider than distal.

Labium Longer than wide in ratio of 15:14. Basal notches distinct. Lateral margins straight, convergent. Anterior margin curved.

Chelicerae Retromargin with two and promargin with five teeth. Distal three promarginal teeth small.

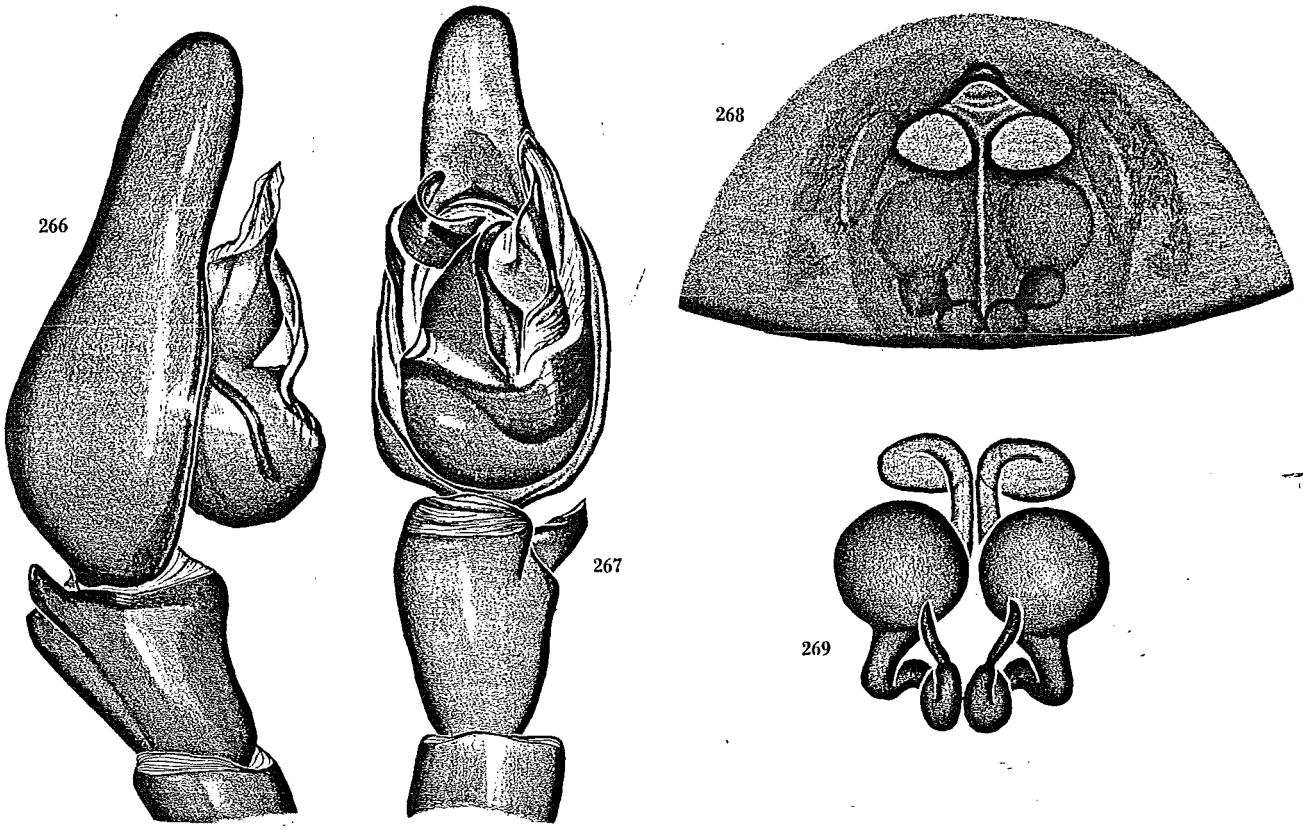
Legs Spines: Legs 1,2 femur d.1 proximal, p.1 subdistal, tibia v.2.2, metatarsus v.2.0. Leg 3 femur d.2.1.3, tibia v.2.2. p,r.1.1, metatarsus v.1.2.0. p,r.0.1.1. Leg 4 femur d.1.1.2, tibia v.1.2.2. p,r.1.0.1. d.0.2.0, metatarsus v.1.2.0. p,r.1.1.1. d.0.0.2. Claw tufts well developed but scopula weak. There are small preening combs on the distoventral surface of the metatarsi of legs 3,4.

Abdomen Anterior spinnerets conical but separated by their width. Colulus represented by a tuft of hairs. Epigynum (Fig. 268) weakly sclerotised with the paired openings well beyond the furrow below a small but heavily sclerotised lip. Internal genitalia as in Fig. 269, with a pair of large receptacula situated medially between the ducts to the external openings and the fertilisation canal.

MALE

Measurements

Carapace	length 2.4	width 1.9
Abdomen	length 2.8	width 1.7



Figs. 266-269 *Anzacia gemmea* Fig. 266 Male palp, retrolateral view Fig. 267 Male palp, ventral view Fig. 268 Epigynum Fig. 269 Internal genitalia from above

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	1.9	1.2	1.8	1.7	1.1	7.7
2	1.5	0.8	1.0	0.9	0.8	5.0
3	1.4	0.7	0.9	1.0	0.6	4.6
4	1.9	0.9	1.3	1.7	0.7	6.5
Palp	0.8	0.3	0.3		0.9	2.3

Palp as in Figs. 266. 267. The tibial process is weak and dorsally situated. Embolus short and directed distally with a membranous conductor. The median apophysis is well developed and originates from near the base of the embolus.

Types Collected by Dalmas from Canterbury. In Museum d'Histoire Naturelle, Paris (not seen).

Records North Island. Northland. Houhora, scrub, 28.vii.53, B. J. Marples. Taurikura Bay, Whangarei Heads, 27.v.70, D. Court. Auckland. Cuvier Island, ix.43, R.R.F. Auckland, v.51, B. J. Marples. Cambridge near lake, 11.ii.52, B. J. Marples. Morrinsville, 20.x.65, N. Limmer. Waihaha River bridge, Taupo, collected at night, 2.ii.56, R. K. Dell. Waikiri-iti Track, Waikaremoana, 23.x.66, R.W.H. Whangaroa Cove, Tauranga Bay, 28.ix.66, K. A. J. Wise. Taranaki. Oakura Beach, 21.iii.69, R.R.F., C.L.W. Hawkes Bay. Taradale, 12.i.67, R.W.H. Westshore, R.W.H. Bay View, Napier, 12.i.59, R.R.F. Waitelolo, 8.xi.68, R.W.H. Totara Reserve, Pohangina Valley, 26.xii.66, D.R.F. Feilding, under logs, 10.i.59, R.R.F. Solway, 8.i.58, R.R.H. Kiriwhakapapa, 29.xii.57, R.R.H. Mangareia, leaf mould, 3.vii.47, C.L.W. Mangareia, 25.vii.45, 28.xii.57, 8.iii.66, 4.iii.67, C.L.W. Waewaepu Ra, 394m, moss 65/474, 4.ix.65, J. I. Townsend. Mikimiki, 14.ix.62, 14.ix.67, C.L.W. Apiti, 12.x.49, M. R. Foord. Opunake, ix.54, L. Simpson. Titahi Bay, 21.vi.41, A. Booth. Wireless Hill, Wellington, 10.vi.41, F. A. Bodley. Kapiti Island, v.47, R.R.F. South Island. Nelson. Golden Bay, i.61, N. M. Watt. Parkes Farm, 88-Valley, 9.iii.71, N. A. Martin. Pretty Bridge Valley, pit trap in pasture, 5.x.66, G. Hitchings. Stephens Island, 13.ix.48, R. K. Dell. Marlborough. Oaro Stream, 1.vi.52, J. Dugdale. Kaikoura, 30.viii.62, R. S. Bigelow. Kaikoura, i.61, W. T. Poppelwell. Weld Pass, pitfall, 16-25.iii.69, R.R.F., C.L.W. Ward Pass, Molesworth, 1154 m, pit trap, 19-22.iii.68, J. C. Watt. Black Birch Range, 1390m, litter 70/137, 13.ii.70, A. C. Eyles. Mouth Conway River, 26.ix.53, R.R.F. Canterbury. Waimakariri River near Bealey, 29.ix.66, R.R.F., C.L.W. Waimakariri River, Klondyke Corner under stones, 6.vii.74, A.D.B. Arthurs Pass, Bealey River, under stones, 7.vii.74, A.D.B. Broken River, 29.ix.66, R.R.F., C.L.W. Broken River, near Castle Hill Station, 29.ix.66, C.L.W. Okuti Valley, 10.xii.50, R.R.F. Hoods Bush, Malvern Hills, 3.v.53, R.R.F. Christchurch. Victoria Park, 26.x.59, R. E. Leech. New Brighton Beach, 5.iv.70, J. Darby. South New Brighton, xii.74, A.D.B. Lincoln College, P. A. Campbell. Birdlings Flat beach, 14.iv.67, R.R.F., C.L.W. Otago Junction

Pass Burn and Lindis River, 26.i.70, D.R.F. Summit Lindis Pass, 8.ii.70, C.L.W. near Naseby Forest, pitfall, 14.iii.68, C.L.W. Corner Little Kyeburn, Naseby-Dansey Pass Road, pitfall, 6.xi.67, 21.xii.68, 16.i.68, 9.ii.68, 15.i.69, 27.i.69, 16.ii.69, C.L.W. Naseby -mid Kyeburn Road, pitfall, 14.iii.68, 24.iii.68, C.L.W. Swinburn Bridge, pitfall, 16.ii.69, 6.iii.69, 1.iii.68, 9.ii.68, C.L.W. Fillyburn Bridge, pitfall, 16.i.68, 15.xi.67, C.L.W. Summit Taieri Ridge, Deep Dell-Fillyburn, pitfall, 26.xii.68, 16.ii.69, 29.iii.69, 15.v.69, 18.x.70, C.L.W. Deep Dell, pitfall, 16.i.68, 24.iii.68, 27.i.68, 16.i.68, 16.ii.69, C.L.W. Hyde pitfall, 4.xi.67, 15.xi.67, 20.xi.68, 6.iii.69, C.L.W. Wedderburn, pitfall, 25.x.67, C.L.W. Eweburn, pitfall, 27.i.69, C.L.W. Spec Creek, Kyeburn, pitfall, 27.i.69, C.L.W. Maniototo Road, near Patearoa, pitfall, 4.xi.67, 4.x.67, 9.vii.68, 27.i.69, C.L.W. Patearoa, pitfall, 21.ii.68, 16.ii.69, 27.xii.67, C.L.W. Maniototo Station Road, near Lake Alison, pitfall, 29.iii.69, 17.iv.69, C.L.W. Pig Route, 25.xii.65, C.L.W. Orangapai Corner, Waipiata - Patearoa Road, pitfall, 27.xii.67, C.L.W. West of Middlemarch, 240m, Matagouri scrub, pitfall, 31.xii.68, J. Child. North of Tiroiti, pitfall, 29.iii.69, C.L.W. Tiroiti, 8.i.66, C.L.W. Tiroiti, niggerheads, 4.x.62, C.L.W. Flagstaff, Dunedin, pitfall, 11-29.iv.71, C.L.W. Flagstaff, Dunedin, 7-21.ii.71, C.L.W. Aramoana, Dunedin, 15.v.66, C.L.W. Elbow Creek, near Roxburgh, under stones, 25.vii.67, R.R.F. Old Man Range, c 1520m, 23.ii.74, R.R.F. Old Woman Range, 1389m, litter 74/95, 20.xi.74, J. C. Watt. Alexandra, under stones, 18.xi.58, R.R.F. Cromwell, 7.xi.58, R.R.F. Cromwell, 20.x.59, 21.x.59, Manuherikia-St. Bathans Road, 15.i.66, C.L.W. Near Dunstan Downs Station, 8.ii.70, C.L.W. Queenstown Hill, 16.ii.52, B. J. Marples. Lake Hawea, 20.i.60, R. E. Leech. Near summit Crown Range Road, 6.ii.70, C.L.W. Mt. Aspiring Station. Matukituki Valley, 7.ii.70, C.L.W. Matukituki Valley Road, near Motapu Bridge, 7.ii.70, C.L.W. West of Blackstone Hill, roadside, 19.xi.66, C.L.W. Shannon Creek, 18.iii.62, W. T. Poppelwell. Cardrona Valley, 5.ii.70, C.L.W. 2km south Luggate, 210m, *Raoulia*, open sunny site, 66/473, A. K. Walker, K. Wilson. Kokonga, pitfall, 18.iv.68, C.L.W. Makarora, Camerons Flat, 17.iii.66, R.R.F. Sutton, under stones, 8.i.56, B. J. Marples. Balclutha Plant Reserve, 20.xi.58, R.R.F. Dunedin, 29.iii.53, Fiordland. Haast, under logs near beach, 16.iii.66, R.R.F. Cascade Creek, 12.i.71, R.R.F. Lake Monk, 9.v.54, J. S. Dugdale. Southland. Clinton, 30.ix.59, R.R.F. Clinton-Wyndham Road, near Melrose Station, 10.iii.70, C.L.W. Stewart Island. Halfmoon Bay, under logs, 22.xi.46, R.R.F. Big Cape Island, 18.xi.68, J. C. Watt.

There is only one species of this genus in New Zealand found in practically every part of the country it has been looked for. The spiders are generally found in open areas with low plant cover or in habitats such as shingle riverbeds with little plant cover. Aggregations of retreats are usually found on the underside of loose rocks or in cracks in rock faces. They are not found in forest. The presence of a single widespread species of a genus otherwise represented by a number of species from Australia, New Caledonia and the New Hebrides suggests that the New Zealand spiders have been introduced. It has not been possible to make direct comparisons with species recorded from Australia but the illustrations given by Berland (1924) for *Anzacia perixigua* from New Caledonia suggest that this species is very close to, if not identical with the New Zealand species.

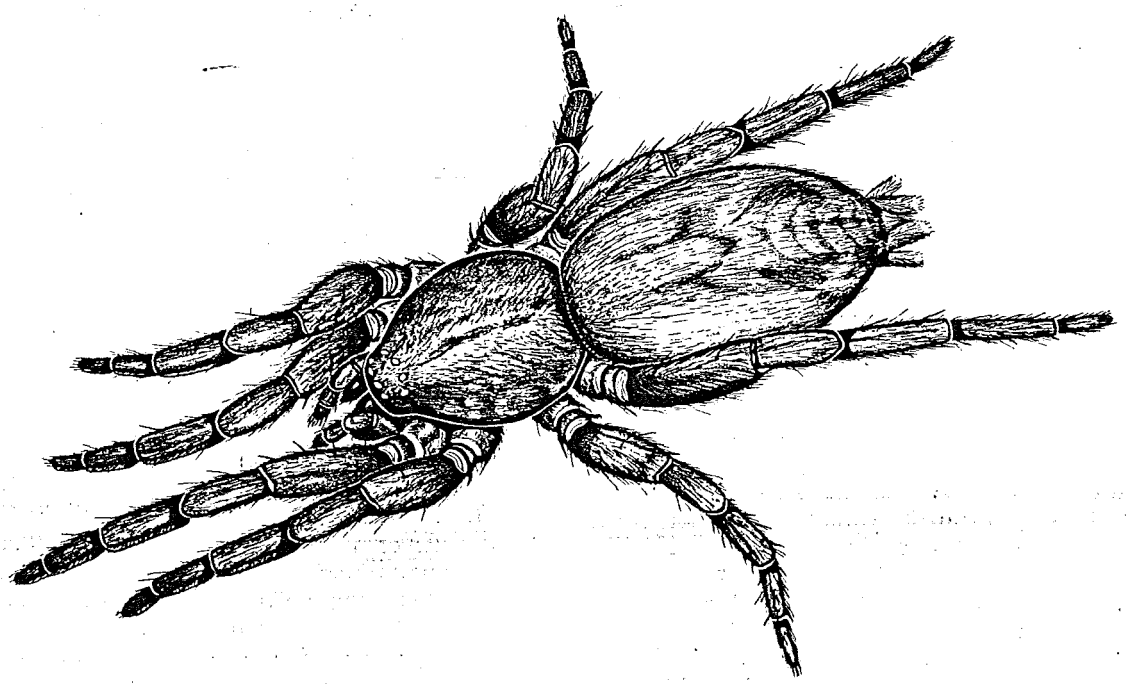


Fig. 270 *Scotophaeus pretiosus* Female. Kaituna Valley, Canterbury

Scotophaeus Simon 1893

Scotophaeus Simon 1893. Hist. Nat. Araign. 1(2):371. Platnick 1977. Bull. American Mus. Nat. Hist. 159:39.

Type species *Scotophaeus blackwelli* (Thorell 1871) Europe.

I have listed above references to the original description of the genus and the most recent diagnosis. The single species of this widespread genus found in New Zealand is readily recognised by the shiny abdomen with a distinctive pattern (Fig. 270). The abdominal scales are leaflike, lacking basal branches but with margins serrate distally (Fig. 162). Male palp with a simple embolus, membraneous conductor and small hooked median apophysis. The occurrence of an endemic species of this genus in New Zealand is extraordinary and as I have commented later it is possible that the species is not native.

Scotophaeus pretiosus (Koch L.)

Drassus pretiosus Koch L. 1873. Arachn. Austr. 1(1):385. Urquhart 1892. Trans. N.Zeal. Inst. 24:221.

Drassodes pretiosus Simon 1893. Hist. nat. Araign. 1(2):356, 357, 361.

Scotophaeus pretiosus Dalmas 1917. Ann. Soc. ent. Fr. 86:349.

Figs. 162, 178, 270-274.

FEMALE

Measurements

Carapace length 3.0 width 2.2
Abdomen length 4.3 width 2.4

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	1.8	1.0	1.3	0.9	0.7	5.7
2	1.7	1.0	1.1	1.0	0.7	5.5
3	1.6	0.9	1.0	1.3	0.8	5.6
4	2.0	1.1	1.7	1.9	0.8	7.5
Palp	0.8	0.4	0.4		0.7	1.9

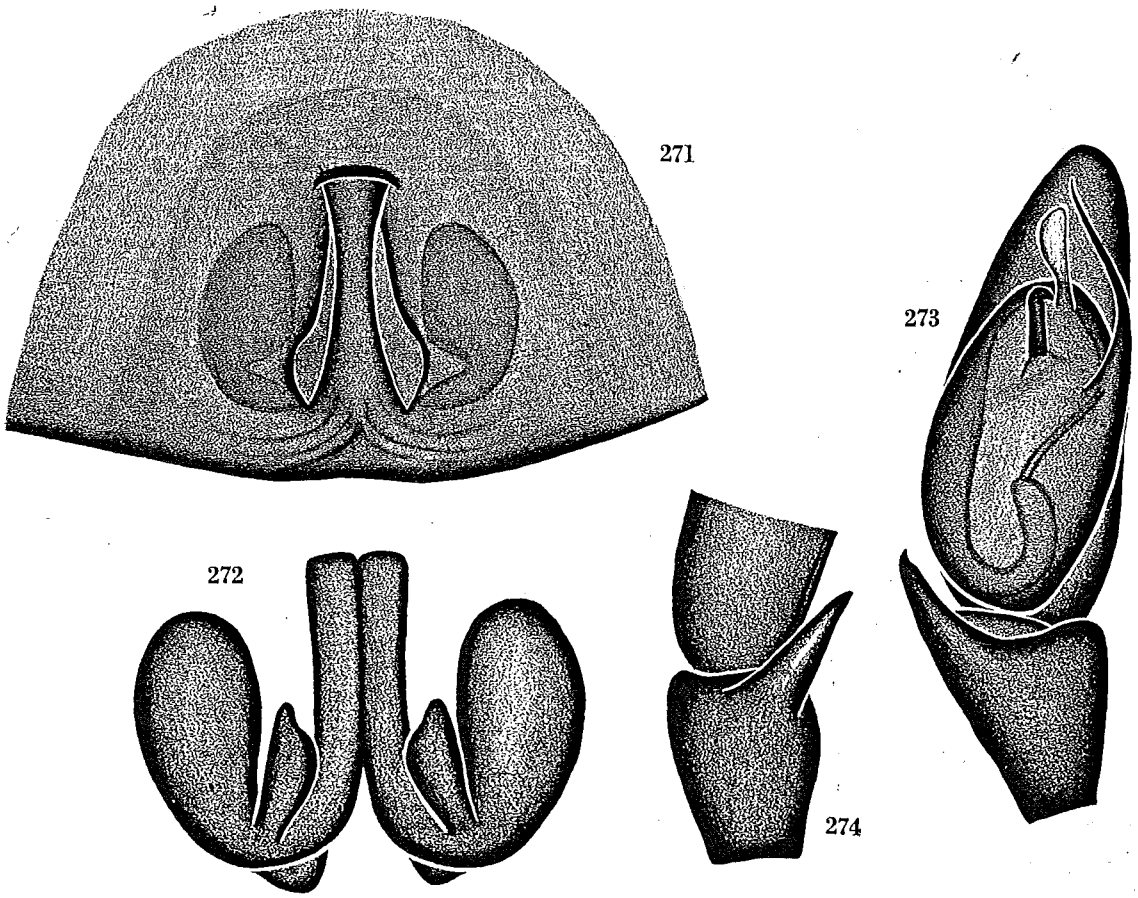
Colour Carapace black relieved by the close covering of shiny hairs. Legs deep reddish brown. Abdomen with a black V near the mid-dorsal surface followed by a number of small chevrons along the median line flanked by a dark band (Fig. 270). The paler areas of the abdomen are shiny and usually have a pink flush.

Carapace Width of the head to thorax is 16:35. Carapace low with short fovea. Closely clothed with small recumbent hairs.

Eyes Group occupies 3/5 of width. Anterior row recurved, posterior straight or gently procurved. Ratio of AME.ALE.PME.PLE = 7.7.6.6. PME circular. AME separated from each other and ALE by 2/7 of the width of an AME. Laterals separated by a diameter. PME separated from each other by 7/7 and from the PLE by 5/7 of the width of an AME. MOQ wider behind than in front in ratio 19:16 and longer than wide in front in ratio 23:16.

Sternum Narrow anteriorly where width is one half of maximum width. Posterior projection short but pointed.

Maxillae Curved around the labium. Twice as long as wide.



Figs. 271-274 *Scotophaeus pretiosus* Fig. 271 Epigynum Fig. 272 Internal genitalia from above Fig. 273 Male palp, ventral Fig. 274 Tibia male palp, retrolateral view

Labium Basal notch shallow. Lateral margins straight and convergent. Anterior margin bluntly pointed.

Chelicerae Small, vertical with boss. Two teeth on each margin.

Legs Thick scopula on metatarsi and tarsi of legs 1,2. Weak scopula on tarsi 3,4. Spines: Legs 1,2 femur d.1.1.0. p.2 subdistal, metatarsus v.2 proximal. First tibia v.0.1.2, second v.0.2.2. Leg 3 femur d.1.3.3. tibia v.1.2.2. d.1.0.0. p.1.1.1. r.0.1.1, metatarsus v.2.2.2. p.0.2.2. r.1.1.2. Leg 4 femur d.2.1.3, tibia v.2.2.2. p,r.1.0.1, metatarsus v.2.2.2. p.0.1.2. r.1.1.1. d.0.2.0.

Abdomen Anterior pair of spinnerets widely separate. Colulus represented by a wide strip of hairs. Epigynum (Fig. 271) inconspicuous. There is a median ridge terminated anteriorly by a narrow lip. The internal genitalia (Fig. 272) are simple and open anteriorly.

MALE

Measurements

Carapace	length 2.7	width 2.0	
Abdomen	length 3.5	width 2.0	

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	1.8	0.9	1.2	0.9	0.6	5.4
2	1.7	0.8	1.2	0.9	0.6	5.2
3	1.5	0.7	1.0	1.3	0.6	5.1
4	1.8	1.0	1.5	1.9	0.7	6.9
Palp	0.7	0.3	0.2		0.6	1.8

Similar in appearance and general structure to the female. Palp as in Figs. 273, 274. The bulb is simple with a slender slightly curved embolus, a short membraneous conductor and a simple median apophysis. The tibial apophysis is a sharp spine.

Types Holotype male, Waikato, allotype female Auckland from O.P. Cambridge collection, Hope Museum, Oxford (Types not seen).

Records North Island. Mokohinau Island, 26.vii.67, E. G. Turbott. Cuvier Island, 22.vi.43, R.R.F. Whale Island, 27.viii.70, D. Court. Ohope Beach, bush, 5.x.69, C.L.W. Waikari-iti Track, Waikaremoana, 23.x.66, R.W.H. Taranaki. Opunake, 23.ii.67, C.W.L. Hawkes Bay. Taradale, 13.iv.64, 12.i.65, R.W.H. Havelock North, 20.viii.41, 25.viii.41, F. A. Bodley. Kitchener Park, Feilding, 26.xii.73, R.R.F. Tiritea, niggerhead, 26.iv.72, C.W.L. Castlepoint, 8.xii.47, C.L.W. 24.ix.66, R.W.H. Waitarere Beach, Levin, i.59, R. G. Ordish. Wellington, decayed wood, 25.x.59, R. G. Ordish. Titahi Bay, 21.vi.41, F. A. Bodley. Wireless Hill, Wellington, 10.vi.47, F. A. Bodley. Lyall Bay, 28.iii.30, A. Castle. South Island. Nelson. Pupu Springs, Takaka, under bark, 13.viii.66, C.L.W. Motu Ngaratiti Island, leaf mould, 12.ix.48, J. T. Salmon. Waitapu Bush, 27.v.67, R.W.H., R.R.H. Westland. Milton Road, Greymouth, 10.v.56, L. R. Jackson. Canterbury. Kaituna Valley, 13.iv.67, R.R.F., C.L.W. Prices Valley, Banks Peninsula, 14.iv.67, R.R.F., C.L.W. Riccarton Bush, Christchurch, 29.i.68, R.R.F. Otago. Wanaka, v.55, B. J. Marples. Chatham Islands. ii.52, J. Eyles. Kaingaroa, sand dunes, 28.ii.67, G. W. Ramsay. Mid Sisters, rock crevice, 29.x.73, A. Wright.

The New Zealand species is extremely close to the *S. blackwelli* of Europe and North America (Platnick and Shadab, 1977), so much so that there is a very strong possibility that this species is not endemic but an introduction from the Northern Hemisphere. The wide range of habitats in which the species has been found in this country ranging from seashore to forest margin, the extensive distribution with no speciation and the lack of relationship to other gnaphosid groups which are undoubtedly endemic to New Zealand lends strong support to this suggestion.

Intruda n.gen.

Gnaphosoides Hogg 1900. Proc. Roy. Soc. 13:72, 93. not *Gnaphosoides* Hogg 1896. Rep. Horn. Exp. Central Austr. 2:332 (= *Eilica* Keyserling 1891).

Platnick (1975) has pointed out that Hogg established *Gnaphosoides* as a new genus twice, once in 1898 for his species *albopunctata* and again in 1900 for *signata*. The species are not congeneric and it is probable that Hogg did not mean to indicate that they were but had forgotten that he had used the same generic name in 1896.

Platnick has recently (1975) concluded that the species on which the genus had been established in 1896, *G. albopunctata*, should be placed in *Eilica* Keyserling and so *Gnaphosoides* as originally established falls in synonymy to this genus.

Signata is a comparatively rare spider in this country although widely distributed. It is unlikely that the Australian gnaphosids will be revised in the near future and so I have established a new generic name *Intruda* for this species.

The abdomen of the single known species is cream with a strong black pattern on the dorsal surface. No scales. AME distinctly larger than remaining eyes. Anterior row slightly recurved, AME closely spaced and almost contiguous with ALE. Posterior row straight. PME oval. Sternum narrow anteriorly. Chelicerae with two teeth on each margin. Scopula on metatarsus and tarsus of legs 1,2. Tibia of legs 1,2 without spines. Anterior spinnerets slightly tapering and almost contiguous at base. Epigynum (Fig. 260) with anterior lip, openings anterior. Internal genitalia with a single pair of receptacula. Male palp (Figs. 258, 259) with a simple spinous tibial apophysis. Embolus originating on the mid retrolateral surface slender and tubular. Conductor membraneous, small, distal. Median apophysis a short hooked structure.

Type species *Gnaphosoides signata* Hogg 1900.

Intruda signata (Hogg 1900)

Gnaphosoides signata Hogg 1900. Proc. Roy. Soc. Victoria. 18:72.93. Simon 1903. Hist. Nat. Araign. 2(4):986.

Figs. 258-261

FEMALE

Measurements

Carapace	length 3.6	width 2.8	
Abdomen	length 5.6	width 3.5	

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	2.4	1.7	2.1	1.7	1.0	8.9
2	2.1	1.5	1.8	1.5	0.8	7.7
3	2.0	1.1	1.4	1.6	0.8	6.9
4	2.7	1.4	2.2	2.5	1.0	9.8
Palp	1.1	0.6	0.6		0.8	3.1

Colour Carapace and legs brown. Abdomen with a prominent dorsal pattern. Ventral surface uniform cream.

Carapace Squat with the head region not clearly defined. Sparsely clothed with fine hairs.

Eyes Eyes occupy 2/3 of the width of the head. Anterior row recurved, posterior row almost straight. Ratio of AME.ALE.PME.PLE = 10.8.6.7. AME separated from each other by 6/10 and from the ALE by 2/10 of the width of an AME. Laterals separated by 6/10. PME separated from each other and the PLE by a distance equal to the width of an AME. MOQ wider in front than behind in ratio of 26:22 and wider in front than long in ratio 26:23. PME oval.

Maxillae Twice as long as wide. Lateral margins almost straight. Proximal half strongly distended.

Labium Basal notch shallow but long. Longer than wide in ratio 13:12. Lateral margins straight for most of the length but curving in distally. Anterior margin narrow and slightly indented.

Sternum Almost oval. Anterior margin narrow with the lateral margins evenly curved. Posterior projection broadly pointed. Longer than wide in ratio of 3:2.

Chelicerae Two strong teeth on each margin.

Legs First pair of legs stoutest. Claw tufts reduced. Scopula hairs present on the metatarsi and tarsi of legs 1,2 but absent from legs 3,4. Spines: Leg 1 femur d.1 basal, p.1 subdistal. Leg 2 femur d.1 basal, p.0.1.1, metatarsus 1 basal proventral. Leg 3 femur d.1.2.2, tibia v.2.2.2. p,r.0.1.1, metatarsus v.2.2.1. p,r.0.1.1. Leg 4 femur d.2.1.0, tibia v.2.2.2. r.1.1.0, metatarsus v.2.2.1. p,r.0.1.1.

Abdomen The anterior spinnerets are narrowly conical and are almost contiguous. Epigynum as in Fig. 260. The internal genitalia (Fig. 261) are simple and open anteriorly.

MALE

No males have been recorded from New Zealand. The palp illustrated (Figs. 258, 259) is from an Australian specimen collected near Jenolan, New South Wales. The embolus originates from near the mid retrolateral surface and is directed distally to a small membraneous conductor. The median apophysis is small and hooked.

Types Victoria, Australia, British Museum (Nat. Hist).

Records North Island. Northland. Taurikura Bay, Whangarei Heads Beach, debris above high tide, 5.vi.70, D. Court. Auckland. Beechlands, i.51, J. Campbell. Hawkes Bay, Taradale, 27.xii.65, R. W. Hutton. Bay View, Napier, near sea shore, 12.i.59, R.R. F. Taradale, 27.xii.65, R.W.H. Masterton, 3.vii.72, C.L.W.

The records indicate that the species is established in most of the North Island but it has not been recorded elsewhere. C. L. Wilton found the series of females recorded from Masterton in long grass in a garden. The spider does not seem to have become as well established as many other introduced Australian spiders.

Hemicloea Thorell 1870.

Hemicloea Thorell 1870. Ofvers. Kongl. Vet. Akad. Forh. 29:380.

Apart from a possibly erroneous record of a species from South Africa these large flattened laterigrade spiders are all from Australia and New Caledonia. The single species recorded from New Zealand is also common in Australia and like *Lampona cylindrata* represents an early introduction from that country.

Carapace broad and flattened with the head region distinct. Eyes in two more or less straight rows extending over most of the width of the head. AME much larger than PME. PME distinctly oval and widely separate. MOQ much wider behind than in front (Fig. 174). Sternum constricted anteriorly and raised (Fig. 183).

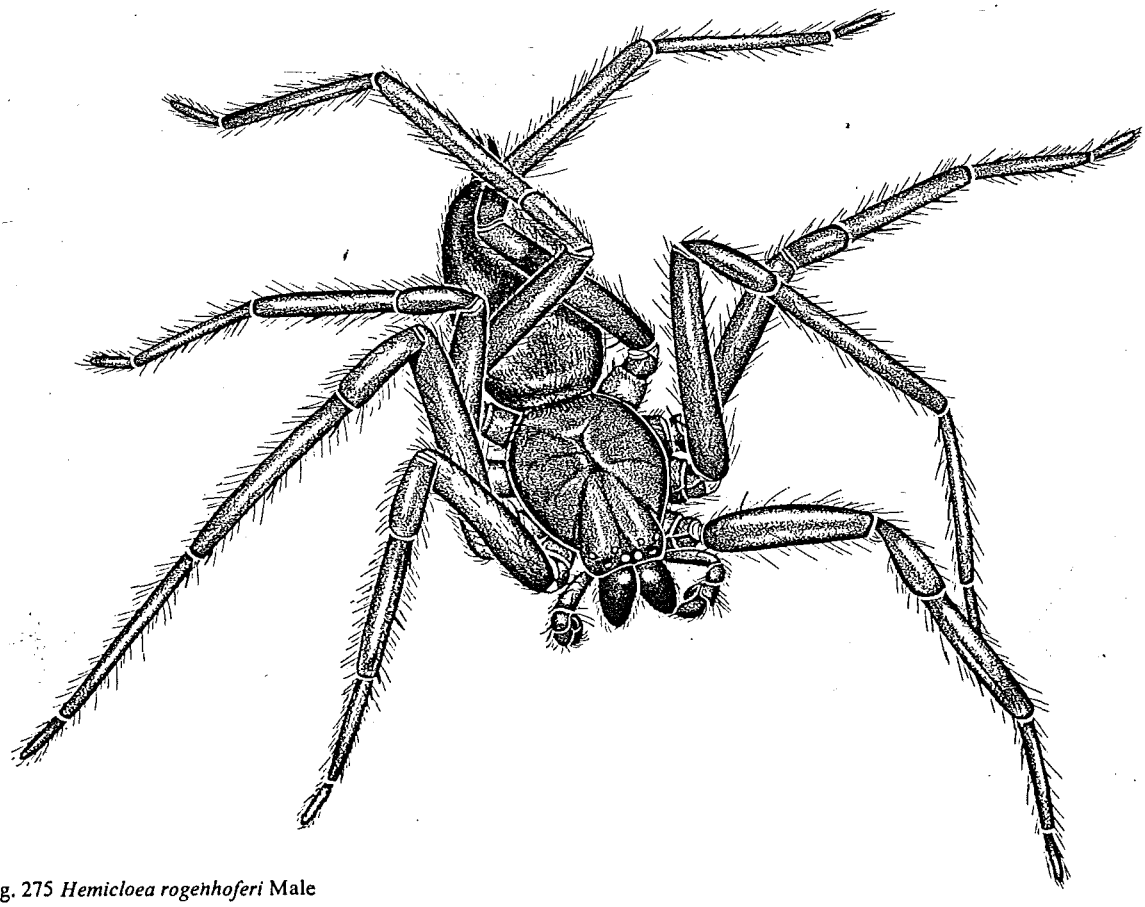


Fig. 275 *Hemicloea rogenhoferi* Male

Chelicerae with two teeth on each margin. Tibia of leg 1 without ventral spines. Bothria typical with transverse ridges (Fig. 17). Tarsal organ elongate with distal opening and a slit as in *Clubiona* (Fig. 20). Male palp with a strong embolus which originates posteriorly, membraneous conductor and hooked median apophysis (Fig. 270). Simple tibial apophysis. Epigynum with an anterior lip, behind which the ducts open to the surface.

Type species *Hemicloea sundervilli* Thorell 1870.

Hemicloea rogenhoferi Koch L.

Hemicloea rogenhoferi Koch L. 1875. Die Arachn. Austr. :618, 637, 835. Urquhart 1892. Trans. N. Zeal. Inst. 24:228. Dalmas 1917. Ann. Soc. ent. Fr. 86:341, 342. Myers 1927. N. Zeal. Journ. Sc. 9(3): 132, 134.
Hemicloea plautus Urquhart 1885. Trans. N. Zeal. Inst. 18:199. Urquhart 1887. Trans. N. Zeal. Inst. 19:110. Urquhart 1892. Trans. N. Zeal. Inst. 24:228. Bryant 1933. Rec. Cant. Mus. 4:1.
Hemicloea alacris Dalmas 1917. Ann. Soc. ent. Fr. 86:341, 343. Myers 1921. Trans. N. Zeal. Inst. 53:251.
Hemicloea celerrima Dalmas 1917. Ann. Soc. ent. Fr. 86:341,343.

Figs. 17, 20, 174, 183, 275-279

FEMALE

Measurements

Carapace	length 6.0	width 5.2
Abdomen	length 10.0	width 6.2

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	4.8	2.7	3.9	3.2	1.6	16.2
2	6.0	3.5	5.3	4.5	1.8	21.1
3	5.0	2.6	3.7	3.5	1.3	16.1
4	6.4	2.8	5.3	5.1	1.5	21.1
Palp	1.7	0.9	1.0		1.2	4.8

Colour Carapace and appendages reddish to yellow brown. Abdomen uniform cream, with a faint mid-dorsal band on the anterior surface.

Carapace Flattened. Head region well defined, slightly higher than thorax. V-shaped depression behind the head extends back to the fovea.

Eyes Fig. 174. Both rows straight, occupying 7/9 of the width of the head. Ratio of AME.ALE.PME.PLE = 12.12.7.10. PME oval. AME separated from each other by 5/12 and from ALE by 16 12 of the diameter of an AME. Laterals separated by 28/12. PME separated from each other and the PLE by three times the diameter of an AME. MOQ wider behind than in front in ratio 50:34 and wider in front than long in ratio 32:31.

Sternum (Fig. 183). Constricted anteriorly, oval with posterior projection obtuse.

Maxillae Strongly extended anteriorly.

Labium Notched at base. Lateral margins gently convergent.

Chelicerae Two teeth on each margin but distal promarginal bifid.

Legs Thick scopula on metatarsi and tarsi of legs 1,2 but reduced on tarsi of legs 3,4. Spines: Leg 1 femur d.1 basal,

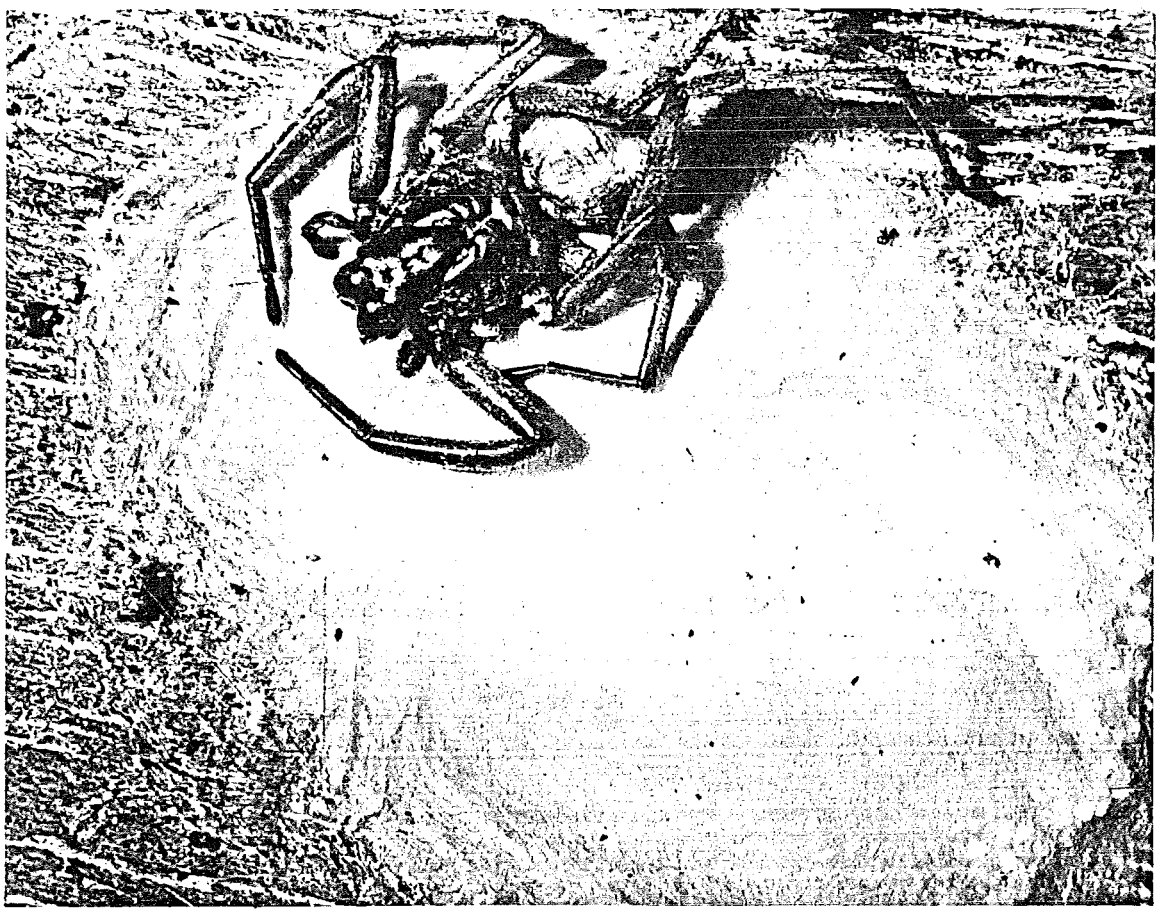


Fig. 275A *Hemicloea rogenhoferi.* Female with eggsac.

metatarsus v.2 basal. Leg 2 femur d.1 basal, tibia v.1.1.0, metatarsus v.2 basal. Leg 3 femur d.1.1.0, tibia v.1.2.0, metatarsus v.2.2.1. r.1 basal. Leg 4 femur d.1 basal, tibia v.1.1.0, metatarsus v.2.2.1. r.1 basal.

Abdomen Flattened. Anterior pair of spinnerets relatively long, almost cylindrical. Colulus represented by a thick patch of hairs. Epigynum as in Fig. 278 with short anterior lip. Internal genitalia tubular (Fig. 279).

MALE

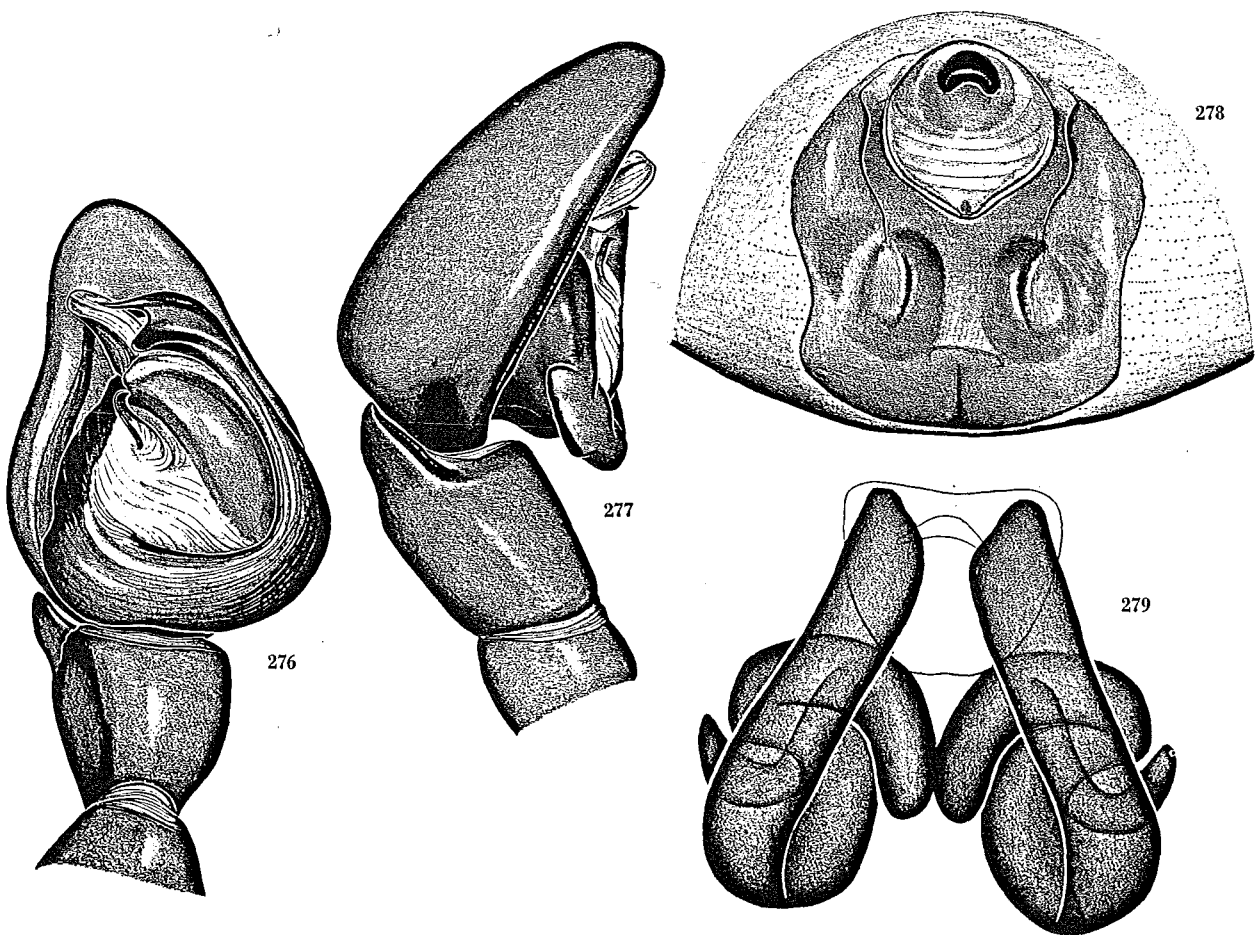
Measurements

Carapace	length 4.5	width 3.8	
Abdomen	length 5.5	width 2.8	

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	4.3	2.4	3.6	5.1	1.2	16.6
2	5.6	2.6	5.2	4.7	1.4	19.5
3	4.3	1.9	3.5	4.8	1.2	15.7
4	5.2	1.9	4.4	4.5	1.1	17.1
Palp	1.6	0.7	0.4		0.8	3.5

Palp as in Figs. 276, 277. The embolus is stout, originating basally and bifid distally. Conductor small, membraneous. Median apophysis small and hooked. Tibial apophysis a short spine which rests in a shallow depression on the base of the cymbium.

Records North Island. Northland. 16km north of Dargaville, 10.ii.52, B. J. Marples. Auckland. v.46, Miss Lusk. Greenhill, Auckland, 30.vii.48, Cuvier Island, 1946, E. Bowley. Otorohanga, ex shed, 2.iii.69, R. G. Ordish. Titirangi, xii.46, B. E. G. Molesworth. Kawhia, ii.34. Hawkes Bay. Waitetola, 8.i.69, R. W. Hutton. Riverbend Road, 14.iii.68, R. W. Hutton. Taradale, 5.vi.64, R. W. Hutton. Wairihiki, R.W.H. Waikewiwara, xii.68. Kitchener Park, Feilding, 26.xii.73, R.R.F. Wainuioru River, near Admiral Station, Wairarapa, 1.iv.68, C.L.W. Mangareia, 10.iii.58, 12.iii.58, C.L.W. Waitarere Beach, Levin, 11.vii.59, R. G. Ordish. Wangaehu, 25.i.43, R.R.F. Gollans Valley, foliage, 29.ix.41, R.R.F. Stokes Valley, viii.48, P. Watts. Karori, in house, 23.iv.46, C.L.W. Eastbourne, 6.iv.34, T. K. Lomas. Wellington. Days Bay, 14.xi.53, Mrs Budd. South Island. Nelson, 21.vi.48, A. W. Parrott. Nelson, 4.ii.63, T. Shaw. Lake Rotoiti 608m 23.viii.62, Crampton. Blackball. i.44. Mt Grey, Kowhai River, 22.i.21, G. Archey. Woodend, Beach, i.58, R. L. Pilgrim. Church Bay, in Blue Gums, 27.xii.54. 1 km west of Kaituna, Banks Peninsula, 16.i.60, C. W. O'Brien. Menzies Bay, 1.ix.59. Tai Tapu under bark of Blue Gum, 14.xi.30, 5.iv.31, A. W. Parrott. Christchurch 13.iii.30, St. Albans, xi.45. Christchurch, under bark Blue Gum, 13.xi.47, L. J. Rollo. Christchurch, 6.v.49, ix.49, W. H. Dukes. Christchurch, v.48, E. W. Dawson. Christchurch, 6.v.49, J.



Figs. 276-279 *Hemicloea rogenhoferi.* Fig. 276 Male palp, ventral Fig. 277 Male palp retrolateral Fig. 278 Epigynum Fig. 279 Internal genitalia from below

Robinson. Christchurch, in house, 27.x.50, R. L. C. Pilgrim. Christchurch, iii.58, A. L. C. Pilgrim. Christchurch, 1.ii.53, R. Scarlett. Upper Hororata, i.22, G. Archey. Fox Creek, 19.ii.53, R.R.F. Hilltop Bush, v.57, R. L. C. Pilgrim. Chalk Hill, 3.iv.55, R.R.F. Mt. Algidus, Lake Ohau, Beech forest, 760m, v.58, Skelton Downs, Lake Ohau, 2.iii.60, R. Abbot. Long Beach, Otago, ii.50, E. W. Dawson. Dunedin, 10.vii.58, iii.58, xi.62, R.R.F. Dunedin, 11.v.66, T. Bruce. St. Clair, Dunedin, 20.iii.67, R.R.F. Dunedin, 26.i.72, D. Gill. Ettrick, under bark, 29.x.58, R.R.F. Arrowtown, 11.ii.69, Lake Hayes, xi.52, B. J. Marples. Glendhu Bay, Wanaka, i.66, P. D. Collins. Southland. Orepuki, 20.x.46, J. H. Sorensen. Orepuki, among timber, 12.i.48, J. H. Sorensen. Orepuki, v.48, E. E. Sorensen. Deep Stream, Waiau River, *Nothofagus* under bark, 11.ii.63, P. M. Johns. Oreti, i.63, W. T. Poppelwell. Between Flat Point and Glenburn, 5.ix.70, C.L.W. Invercargill, 12.xi.46, J. H. Sorensen.

This Australian species is widespread in New Zealand. The favoured habitat is beneath loose bark where the large plano-convex eggsac is usually constructed. The other three species attributed to New Zealand, *plautus* Urquhart, *alacris* Dalmas and *celerrima* Dalmas are undoubtedly synonymous with *rogenhoferi*. In New Zealand the spider is found in disturbed habitats and is particularly associated with Australian eucalypts although the association would appear to be related to the persistence of loose bark on the trunks of these trees rather than their Australian origin.

Lampona Thorell 1869.

Latona (preoccupied) Koch L. 1866. Die Arachn. Drassid. p.3.
Lampona Thorell 1869. N. Act. reg. Sci. Upsal. 7:37.

This Australian genus is represented by a single species in New Zealand which must have been introduced in the early days of colonisation. It is the only gnaphosid commonly seen hunting during daylight and more so because it is usually abundant about houses. It is mainly found in the North Island.

Readily recognised by the elongate body form, the black pear shaped carapace and the distinctive white patch above the spinnerets which is sometimes associated with two further pale patches along the side of the abdomen. (Figs. 280, 281). The male has a large triangular sclerotised plate on the antero-dorsal surface of the abdomen. The generic characters which separate the genus from all other New Zealand gnaphosids are the large AME and distinctly oval PME. The absence of spines on the legs. The male bulb with a distal embolus and membraneous conductor but no median apophysis. The

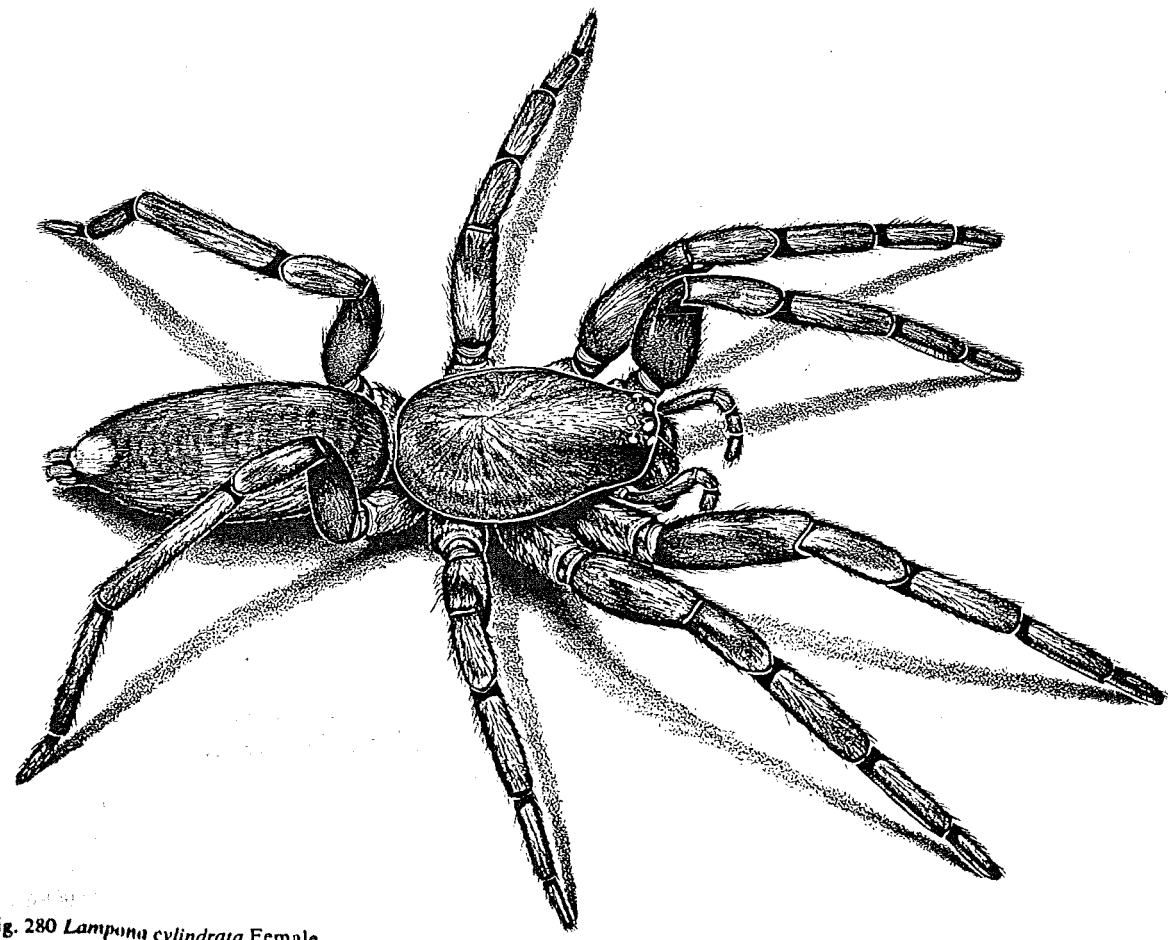


Fig. 280 *Lampona cylindrata* Female

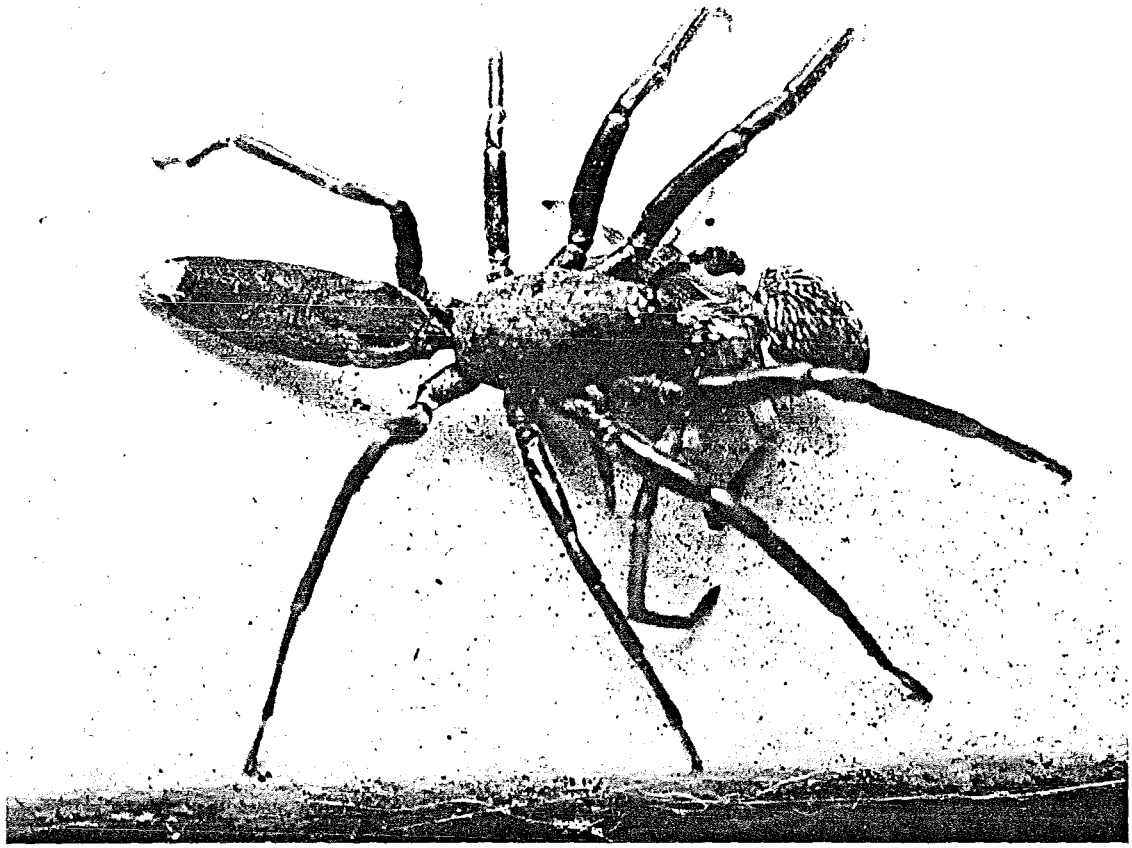


Fig. 281 Male *Lampona cylindrata* with young *Ixeuticus martius* captured from web on the weatherboards of a house. Feilding, December, 1972. In the male the lateral pale patches are indistinct or absent and the well developed dorsal scute may be seen on the anterior surface of the abdomen

epigynum and the epigastric region heavily sclerotised. Abdomen without scales but with plumose hairs (Fig. 158). Tarsal organ (Fig. 15) elongate, ridged with the opening distad. Bothria transversely ridged (Fig. 12).

Type species *Lampona cylindrata* (Koch L. 1866).

Lampona cylindrata (Koch L.)

Latona cylindrata Koch L. 1866. Die Arachniden Familie der Drassiden 1:3.
Lampona cylindrata Koch L. 1873. Die Arachn. Austr. pp. 363, 373. Dalmas 1917. Ann. Soc. ent. Fr. 86:350.
Drassus formicarius Urquhart 1887. Trans. N. Zeal. Inst. 19:109.
Herpyllus formicarius Urquart 1892. Trans. N. Zeal. Inst. 24:221.
Lampona cylindrata herculanea Dalmas 1917. Ann. Soc. ent. Fr. 86:351.

Figs. 12, 15, 158, 165, 177, 182, 280-285

FEMALE

Measurements

Carapace	length 5.8	width 3.9
Abdomen	length 7.6	width 3.6

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	3.9	2.1	2.8	2.2	1.5	12.6
2	3.7	2.1	2.7	2.2	1.5	12.2
3	3.0	1.5	2.4	2.0	1.2	10.1
4	4.0	2.0	3.5	3.6	1.4	14.5
Palp	1.3	0.6	0.8		1.0	3.7

Colour Carapace black. Legs uniform dark reddish brown. Abdomen brown with a pale patch above the spinnerets and two large pale areas down the lateral surfaces (Fig. 280).

Carapace Finely granulate. Width of head one half of thoracic width. Fovea narrow but distinct.

Eyes (Fig. 177). Anterior margin straight, posterior slightly procurved. PME oval. Ratio of AME.ALE.PME.PLE = 15.10.10.8. AME separated from each other by one third of the diameter of an AME and contiguous with the ALE. Laterals separated by 9/15. PME separated by 2/15 and from the PLE by 7/15 of the diameter of an AME. MQW wider in front than behind in ratio 35:22. As long as wide in front.

Sternum (Fig. 182). Oval, longer than wide in ratio 15:8. Anterior margin narrow. Flattened with marginal ridge. Posterior projection short and broad.

Maxillae (Fig. 182). Twice as long as wide.

Labium As long as wide. Lateral margins convergent, wider behind than in front in ratio 12:7.

Chelicerae Short, vertical. Furrow lacking, with 3 small teeth on promargin only.

Legs Spines lacking. Legs 1,2 with thick scopula on metatarsi and tarsi; weakly developed on legs 3,4.

Abdomen Spinnerets conical. Anterior pair widely separate. Colulus with pair of hair tufts. The distinctive epigynum (Fig. 284) is strongly sclerotised and relatively large. The internal genitalia (Fig. 286) by contrast are relatively small and simple.

MALE

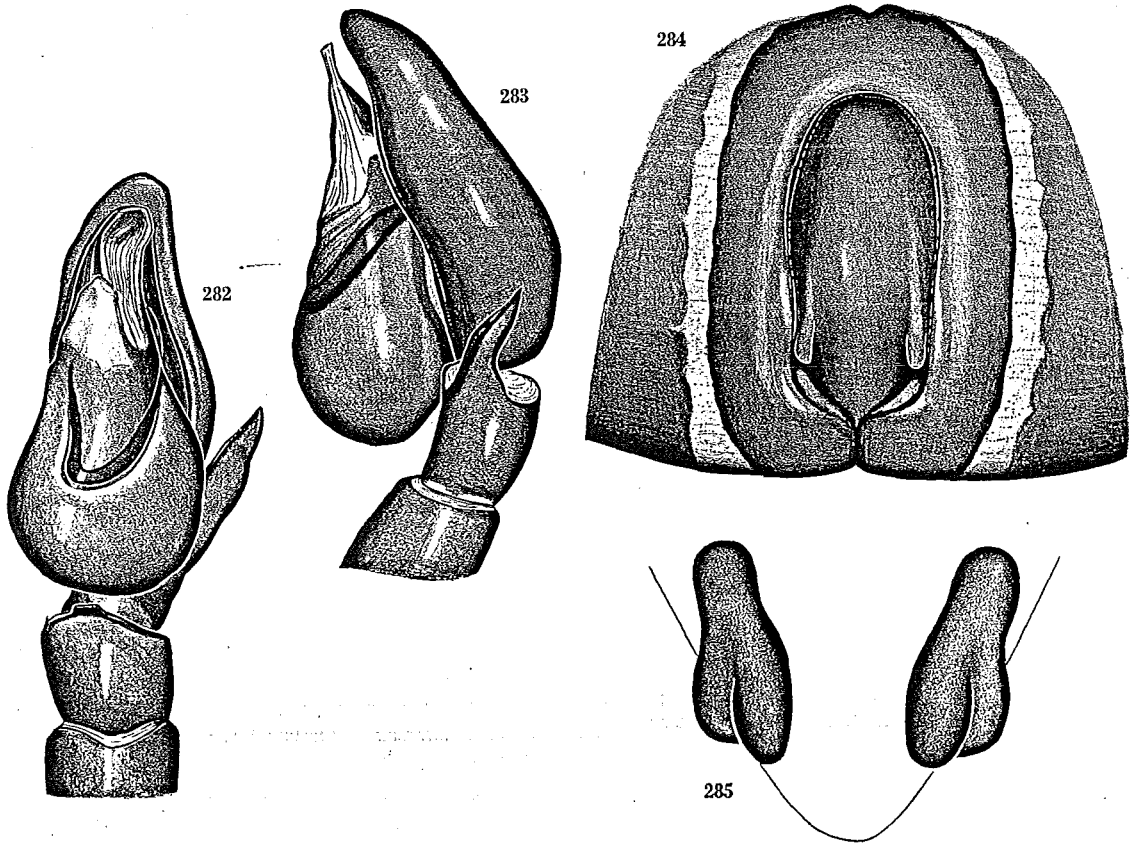
Measurements

Carapace length 5.0 width 3.4
Abdomen length 7.4 width 3.3

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	2.8	1.9	3.0	2.2	1.2	10.9
2	2.9	1.7	2.5	2.2	1.2	10.5
3	2.4	1.4	2.0	1.8	1.1	8.7
4	3.3	1.7	3.0	3.1	1.3	12.4
Palp	1.2	0.6	0.4		1.1	3.3

Abdomen with a prominent reddish brown sclerotised triangular plate down the anterior third of the dorsal surface (Fig. 281). Palp as in Figs. 282, 283. The bulb is large, extending over much of the ventral surface of the cymbium. Embolus short, distal. Conductor membraneous. Median apophysis lacking.

Records North Island. Paihia, 12.i.49, B.O.I. Kawakawa, Bay of Islands, 1.iii.16, Jacks Bay, Bay of Islands, 16.xii.66, K. A. J. Wise. Mangonui, in house, 31.x.51, H. C. Abraham. Ruawai, in farmhouse, 4.v.70. Kawa, Katherine Bay, Great Barrier Island, iv.67, R. G. Ordish. Beechlands, Auckland, iii, v6, 49, i.51, J. W. Campbell. Mt. Albert, Auckland in house, 25.viii.52, F. E. Wilkin. Auckland, xi.41, D. Spiller. Auckland viii.70, K. A. J. Wise. Mangere, Auckland, iv.50, K. P. Lamb. Parnell, Auckland, in house, 14.xi.51, E. G. Turbott. Auckland, Ngapuhi Road, in garden, winter, M. P. Buchler. Remuera, Ngapuhi Road, 3.ii.72, M. P. Buchler. Auckland, Chelsea Refinery, 11.xii.70, Auckland, 9.i.38, Valentine. Auckland, in house, x.49, T. McRae. Owairaka, Auckland, in house, xi.51, K. P. Lamb. Owairaka, Auckland, iv.58, A. M. Richards. Sunnyvale, Henderson, 4.iii.66, K. A. J. Wise. Ruakura, Hamilton, in outhouse, 18.ix.68, B. F. Morris. Otorohanga, shed, 2.iii.69, R. G. Ordish. Otorohanga, i.42, G. Watchman. Whale Is., Bay of Plenty, ii.54, Taranaki. New Plymouth, 30m 1923. H. Bellringer. New Plymouth, 9.xi.67, R. Allen. New Plymouth, viii.70, McCutcheon. Hawkes Bay, Taradale, R. W. Hutton. Napier, 1.i.53, Riverbend, road, 1968, R. W. Hutton. Aramaho, Wanganui, 11.ii.48, H. Turnbull. Westmere, Wanganui, 12.xii.48, J.M.M., M.J.G.S. Pipiriki, 1920. Feilding, 6.x.42, i.74, R.R.F. Foxton, 12.i.67, R.R.F., D.R.F. Masterton, ix.65, Masterton, R. R. Hutton. Mt. Holdsworth, Wairarapa, R. R. Hutton. Upper Hutt, B. J. Marples. Wellington district, iii.52, B. J. Marples. Wellington, ix.56, Hammond. Castlecliff, 20.x.75. South Island. Nelson, in house, 30.ix.48, Mrs Jack. Nelson, B. J. Marples. Nelson in house, 25.ii.66, B. A. Kuschel. Richmond, 7.xii.48.



Figs. 282-285 *Lampona cylindrata* Fig. 282 Male palp, ventral view Fig. 283 Male palp, retrolateral view Fig. 284 Epigynum Fig. 285 Internal genitalia from above

This species has long been established in the North Island where it is often seen hunting other spiders on the walls of houses. It would seem that the principal prey of these spiders is the fellow Australian cribellate spider *Ixeuticus martius* but they have also been recorded preying on a number of other species including the orbweb spider *Araneus pustulosus*. The only South Island records of the spider are from Nelson and this restricted distribution suggests that the range is determined by climatic factors.

Family CLUBIONIDAE Wagner 1887

Although spiders of this family are probably amongst the most commonly seen spiders in New Zealand they are poorly represented when compared to other countries.

The family is generally associated with the Gnaphosidae but recognition of the New Zealand representatives and their separation from this family presents no problems. Like the gnaphosids the Clubionidae have two claws and well developed claw tufts with scopula on the metatarsi and tarsi. The eyes are uniformly circular in outline and usually situated in two more or less straight rows. The anterior spinnerets are of normal appearance, concical rather than cylindrical, and are contiguous or nearly so at the base.

Only three genera are recorded below. Except for two species the New Zealand representatives of this family all fall into *Clubiona* a huge genus with a worldwide distribution. It is very likely that some of the species of *Clubiona* recorded below are in fact introductions from Australia but there is undoubtedly an endemic element present in this country as well. *Chiracanthium* with a single species is however probably introduced and there is no doubt that this is the situation for the third genus *Supunna*. The spiders related to the Australian *Miturga* which are customarily placed in the Clubionidae are considered here to belong in the family Miturgidae and will be included in a later volume. This group is very strongly represented in New Zealand and exhibits a speciation pattern typical for forest endemics.

Clubiona Latreille 1804

This widespread genus is represented in New Zealand by twelve spieces, some of which are probably recently introduced.

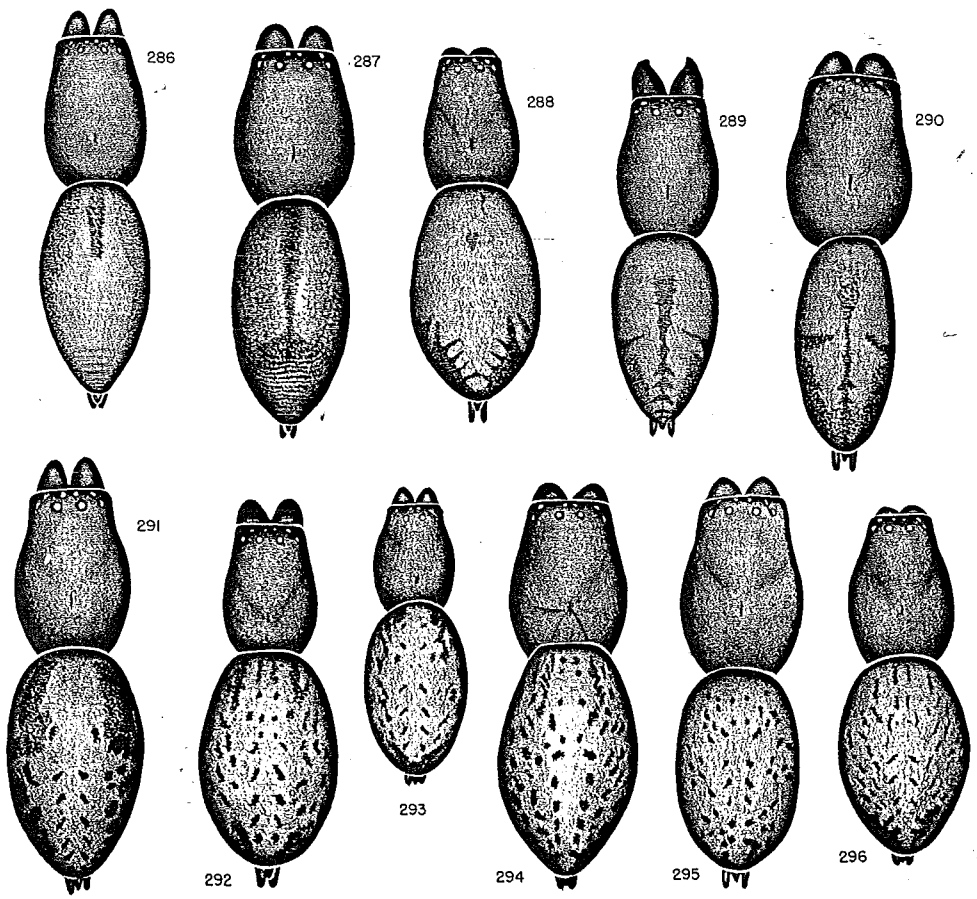


Fig. 286-296 *Clubiona* – dorsal view of body to show the colour patterns characteristic for the following species Fig. 286 *Clubiona torta* n. sp. Fig. 287 *Clubiona clima* n. sp. Fig. 288 *Clubiona cada* n. sp. Fig. 289 *Clubiona contrita* n. sp. Fig. 290 *Clubiona cambridgei* Fig. 291 *Clubiona peculiaris* Fig. 292 *Clubiona huttoni* n. sp. Fig. 293 *Clubiona delicata* n. sp. Fig. 294 *Clubiona convoluta* n. sp. Fig. 295 *Clubiona producta* n. sp. Fig. 296 *Clubiona consensa* n. sp.

They are easily recognised and rarely confused with genera of other families found in this country, although they may superficially resemble them. Most of the species live in open areas with low shrubs, tussock and flax on which the hunt and only a few species seem to be part of the forest biota. These are found in the litter on the forest floor or on low shrubs.

Carapace broadly obtuse anteriorly with the head region not strongly differentiated. Fovea shallow but always present. Eyes subequal, in two more or less straight rows with the posterior row distinctly wider than the anterior row. AME always closer together than PME. Abdomen longer than wide with either a pattern of small spots or a median band of shading and sometimes lateral and posterior shading. (Figs. 286, 292). Abdomen not clothed with scales or plumose hairs. Anterior pair of spinnerets conical, closely spaced and not markedly longer than the posterior pair. Colulus represented by a few hairs. Sternum scutiform, longer than wide. Femora of legs 1,2 with dorsal spines. Tibiae and metatarsi with double rows of spines on ventral surface. Bothria as in Fig. 21. Tarsal organ with a slit leading from the posteriorly situated opening (Fig. 22). Tibia of male palp with a simple spinous or clavate process (New Zealand species). Bulb with a spiniform embolus but no conductor or median apophysis (Fig. 299). A thinly sclerotised portion of the tegulum acts as the conductor and varies in extent down the promargin. Internal genitalis of the female with two pairs of receptacula, in some species broadly joined, (Figs. 301, 330) which led to the epigynum through slender and sometimes convoluted ducts.

Type species *Clubiona pallidula* (Clerk 1758) Europe.

The following four New Zealand species placed by their original authors in *Clubiona* have not been recognised.
Clubiona chathamensis Simon 1905
Clubiona chevronia Urquhart 1891
Clubiona nitida Urquhart 1892
Clubiona viridicoma Urquhart 1891

The species described by Simon has not been examined but the dark colouration would preclude it from the known New Zealand *Clubiona* and suggests that it might be the species I described earlier as *Otagoa chathamensis* which is a desid.

No types or identified material of the three Urquhart species now remain in his collection and without illustrations his descriptions while copious are not very helpful. It has been suggested by Bryant (1935) that *C.nitida* is a gnaphosid and she placed the species in *Anzacia.* If it does belong in this family then it would more likely be a species of *Hypodrassodes. C.chevronia* on the basis of colouration and the type locality could be the desid I described as *Notomatachia cantuaria* Forster 1970. The third species *C.viridicoma* which was collected from Mount Cook remains a mystery for which I would be loth to suggest any family designation. It seems best to treat these three species as being unrecognisable.

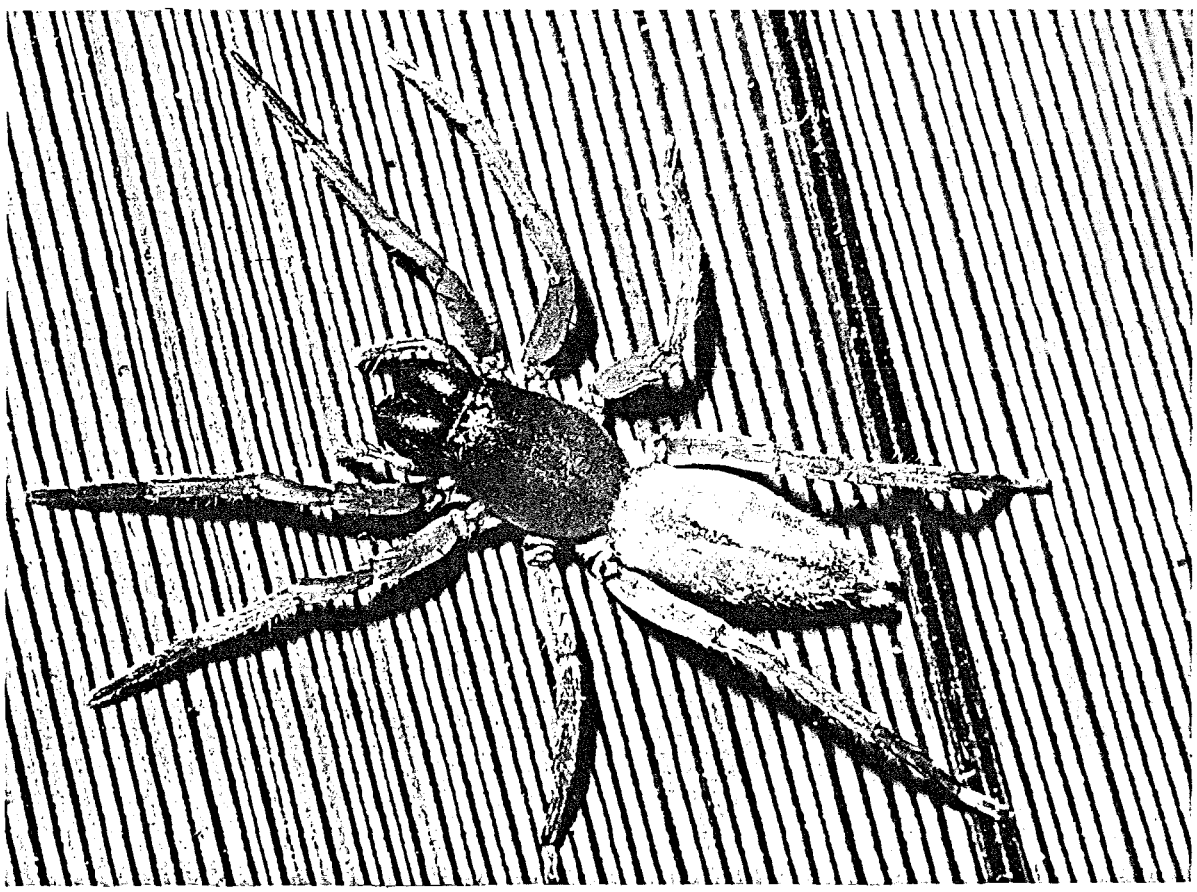


Fig. 297 *Clubiona contrita* n. sp. Female

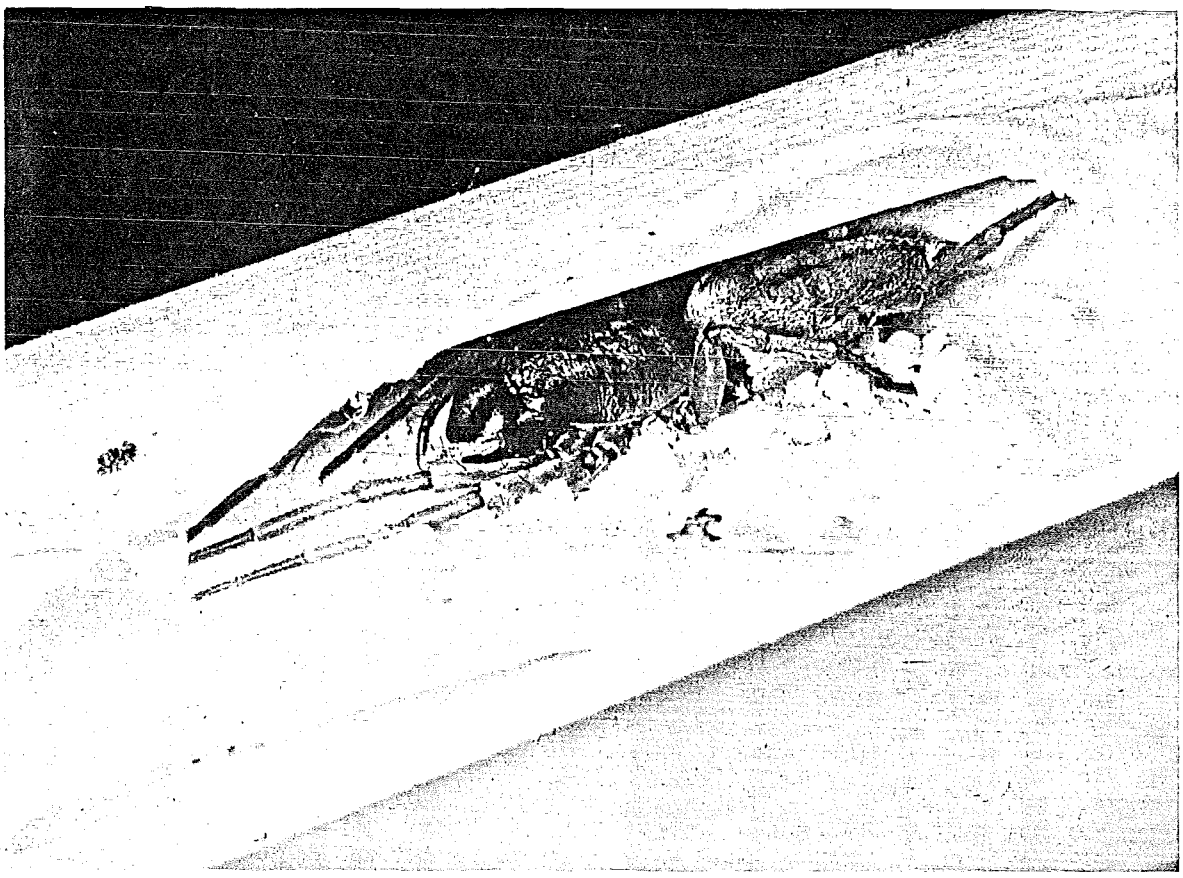


Fig. 298 *Clubiona contrita* n. sp. in retreat with eggsac. The retreat has been constructed inside the curled leaf of flax (*Phormium tenax*)

Clubiona cambridgei Koch L.

Clubiona cambridgei Koch L. 1873. Die Arachniden Austr. :419. Urquhart 1892. Trans. N. Zeal. Inst. 24:222. Simon 1905. Zool. Jahrb. Syst. 21:417. Dalmas 1917. Ann. Soc. ent. Fr. 86:392. Berland 1925. Rec. Cant. Mus. 2:295. Myers 1927. N. Zeal. Journ. Sc. 9(3):132. Bonnet 1945. Bibliographia Aran. 2(2):1114.

Figs. 25, 26, 290, 299-303

FEMALE

Measurements

Carapace	length 3.3		width 2.2
Abdomen	length 4.2		width 2.2

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	1.8	1.2	1.6	1.2	0.7	6.5
2	1.9	1.3	1.7	1.2	0.7	6.8
3	1.7	1.0	1.1	1.4	0.6	5.8
4	2.3	1.3	2.0	2.3	0.7	8.6
Palp	0.9	0.6	0.5		0.8	2.8

Colour Carapace orange brown, darker around the eyes. Legs straw brown. Abdomen cream with a narrow dorso-median stripe, wider anteriorly and small chevrons posteriorly (Fig. 290).

Eyes Occupying 6/7 of the head. Ratio of AME.ALE.PME.PLE = 5.6.5.5. AME separated by 5/5 and from the ALE by 8/5. Laterals separated by 6/5. PME separated by 17/5 and from the PLE by 11/5. MOQ wider behind than in front in ratio 27:15, longer than wide in front in ratio 17:15.

Sternum Longer than wide in ratio 11:7. Anterior margin straight, lateral margins evenly curved. Coxal and intercoxal projections short. Posterior projection short and sharp.

Maxillae Parallel. Slightly constricted medially. Distal outer margins moderately expanded. Slightly more than twice as long as wide.

Labium Longer than wide in ratio 10/7. Basal notches shallow but extensive.

Chelicerae Retromargin with 3, promargin with 4 teeth.

Legs Scopula on metatarsi and tarsi of legs 1,2 but only tarsus of legs 3,4. Spines: Leg 1 femur d.1.1.1. p.1 subdistal, tibia v.2.2. Leg 2 femur d.1.1.1. p.1 subdistal, tibia v.1.2, metatarsus v.1 proximal. Leg 3 femur d.1.2.3, tibia v.p.r.1.1, metatarsus v.2.0.2. d.0.2.2.0. p.1.1.1. r.0.1.1. Leg 4 femur d.1.1.3. Patella r.1, tibia v.1.1.1. p,r.1.1.0, metatarsus v.2.0.2. p,r.1.1.1. d.0.2.2.

Genitalia Epigynum heavily sclerotised, scape rectangular with a single opening (Fig. 301). Internal genitalia Figs. 302, 303.

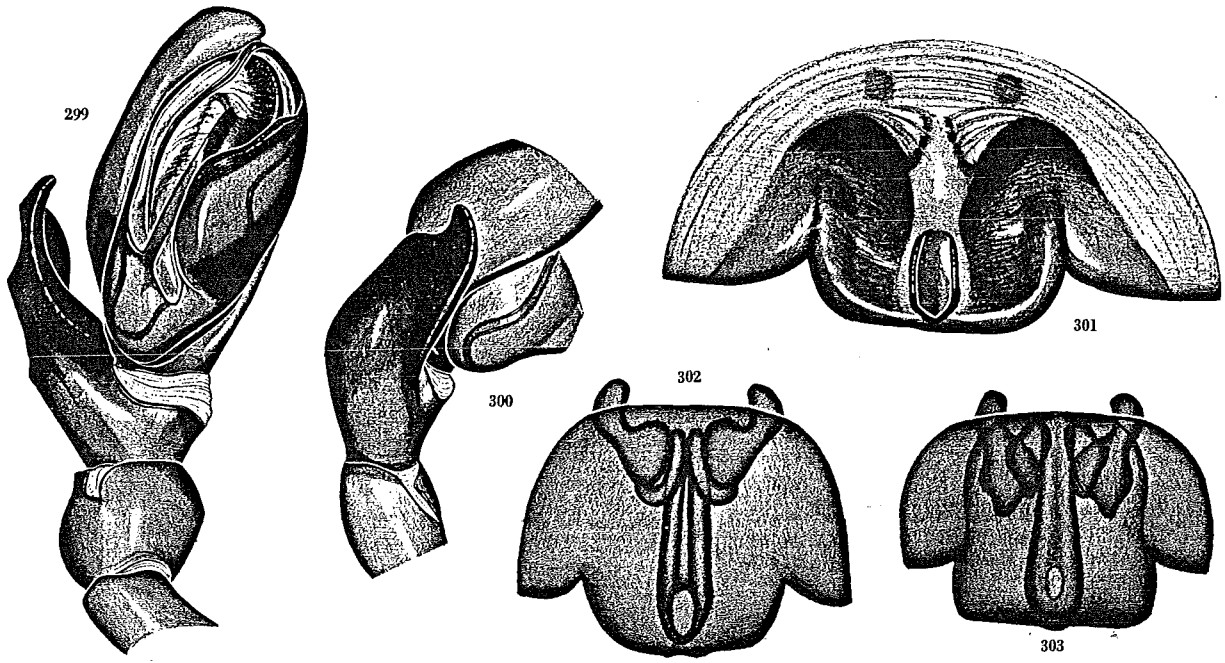
MALE

Measurements

Carapace	length 3.3		width 2.2
Abdomen	length 4.2		width 2.1

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	2.4	1.3	2.2	1.7	0.9	8.5
2	2.4	1.5	2.3	1.7	0.8	8.7
3	1.9	1.0	1.3	1.7	0.6	6.5
4	2.7	1.3	2.1	2.5	0.8	9.4
Palp	1.1	0.4	0.4		1.1	3.0

The tibial process of the palp is wider than in either *contrita* or *scatula* and is usually notched apically (Figs. 299, 390).



Figs. 299-303 *Clubiona cambridgei* Fig. 299 Male palp, ventral Fig. 300 Retrolateral tiba male palp Fig. 301 Epigynum Fig. 302-303 Internal genitalia shown as seen through the sclerotised capsule characteristic of this group of *Clubiona* Fig. 302 from below Fig. 303 from above

Types Male and female syntypes, Canterbury, O.P. Cambridge coll. (not seen). Hope Museum, Oxford.

Records North Island. Auckland. Murupara, 3.x.69, C.L.W. Hawkes Bay. Makotuku, T. K. Lomes. Wairarapa. Mikimiki, 14.ix.67, C.L.W. Mangareia, 28.xii.57, Tiritea, ex niggerhead, 26.ix.72, C.L.W. South Island. Nelson. Parkes Farm, 88-Valley, 520, 369064, 17.xi.70, N. A. Martin. Mt. Arthur 1341m, 24.xi.71, litter 71/86, J. S. Dugdale. Marlborough. Conway, near Glen Conway Stream, 25.iii.69, R.R.F., C.L.W. Canterbury. Hamner, i.1966, T. Poppelwell. Lake Taylor, 14.iv.52, R.R.F. Broken River near Castle Hill Stn. 29.ix.66, C.L.W. Lake Rubicon, 19.xi.50, R.R.F. Brighton Beach, 28.i.60, R. E. Leech. Gebbes Pass, Christchurch, flax, x.75, I. Johnson. Peel Forest, ex niggerhead, 30.ix.66, C.L.W., R.R.F. Orari River, near Geraldine, 30.ix.66, C.L.W., R.R.F. Otago. Allans Beach, with cocoon, 30.xii.51, B. J. Marples. Lake Mahinerangi, 2.iii.52, B. J. Marples. Taieri, Cabbage tree leaves, 7.x.73, R.R.F. Henley, dried cabbage tree leaves, 16.ix.72, R.R.F. Henley, grass in swamp, 20.iv.75, R.R.F. Evansdale Glen, 13.vi.66, B. Weston. Aramoana, Otago Harbour, 15.v.66, C.L.W. West of Blackstone Hill, Central Otago, 19.xi.66, C.L.W. Frankton, in retreats rolled up flax, lake edge, 15.ii.73, R.R.F. Lake Tuakitoto, Kaitangata, 14.viii.67, 14.ix.67, R.R.F. Bobbys Head Road, near Palmerston, 20.x.66, C.L.W.

Characteristically found associated with flax and Cabbage trees in wet and marshy areas this species is probably as widespread in the North Island as it is in the South Island despite the few records. The retreats and eggsacs are usually found in curled up leaves.

Although the type specimens have not been examined the description and illustrations given by Koch enable the species to be readily recognised.

Clubiona torta n. sp.

Figs. 286, 308

FEMALE

Measurements

Carapace	length 2.5	width 1.7	
Abdomen	length 3.2	width 1.9	

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	1.1	0.9	1.0	0.8	0.5	4.3
2	1.3	0.8	1.1	0.8	0.5	4.5
3	1.1	0.7	0.8	1.0	0.4	4.2
4	1.5	0.8	1.2	1.5	0.5	5.5
Palp	0.6	0.3	0.3		0.5	1.7

Colour Carapace and legs orange brown. Abdomen with a short median band down the anterior third but with lateral shading down the whole length (Fig. 286).

Eyes Two straight rows occupying 4/5 of the width. Ratio of AME.ALE.PME.PLE = 6.6.5.6. AME separated by 6/6 and from the ALE by 8/6 of the diameter of an AME. Laterals separated by 6/6. PME separated by 19/6 and from the PLE by 11/6. MOQ wider behind than in front in ratio 29:18 and wider in front than long in ratio 18:16.

Chelicerae Retromargin with 2, promargin with 3 teeth.

Abdomen Relatively narrow and pointed posteriorly.

Legs Legs 1,2 with a patch of scopulate hairs on the retroventral surface of the tibia as well as the typical metatarsal and tarsal scopula. Spines: legs 1,2 femur d.1.1.1, tibia v.0.0.1. Leg 3 femur

d.1.1.3, patella r.1, tibia v.1.1.1. p,r.0.1.1, metatarsus v.2.0.2. p.r.1.1.2. Leg 4 femur d.1.1.3, patella r.1, tibia v.1.1.1. p,r.0.1.1, metatarsus v.2.1.2. p.1.2.2. r.1.1.2.

Genitalia Epigynum of the single specimen studied is not heavily sclerotised, similar in shape to *scatula* but the opening single (Fig. 308).

Type Holotype female. Nelson. Pu Pu Springs, Takaka, 13 August, 1966. C. L. Wilton (Otago Museum).

Remarks The type specimen was kept under observation because it was found that when disturbed the spider wriggled the posterior portion of the abdomen; a reaction not seen in any other species. If this observation is not merely fortuitous it suggests that a field study of the species could be of interest.

Clubiona contrita n. sp.

Figs. 297, 298, 304-307

MALE

Measurements

Carapace	length 2.8		width 1.8
Abdomen	length 3.5		width 1.6

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	1.6	1.1	1.5	1.2	0.7	6.1
2	1.7	1.1	1.4	1.1	0.6	5.9
3	1.5	0.7	0.9	1.1	0.5	4.7
4	1.6	0.8	1.5	1.8	0.6	6.3
Palp	0.7	0.4	0.3		0.8	2.2

Colour As in *cambridgei.*

Eyes Occupy 8/9 of the width of the head. All eyes equal in size. AME separated by 3/4 and from the ALE by 4/4 of the diameter of an AME. Laterals separated by width of AME. PME separated by 3 and from the PLE by 4 times diameter of an AME.

Chelicerae Two teeth on promargin but none on retromargin.

Labium, Maxillae and sternum as in *cambridgei.*

Legs Spines: Leg 1 femur d.1.1.1. p.1 distal. Leg 2 femur d.1.1.1. p.0.1.1. tibia v.1.1.0. Leg 3 femur d.1.2.3. Leg 4 femur d.1.1.3.

Palp Embolus shorter than in *cambridgei.* Tibial process more slender (Figs. 304, 305).

FEMALE

Measurements

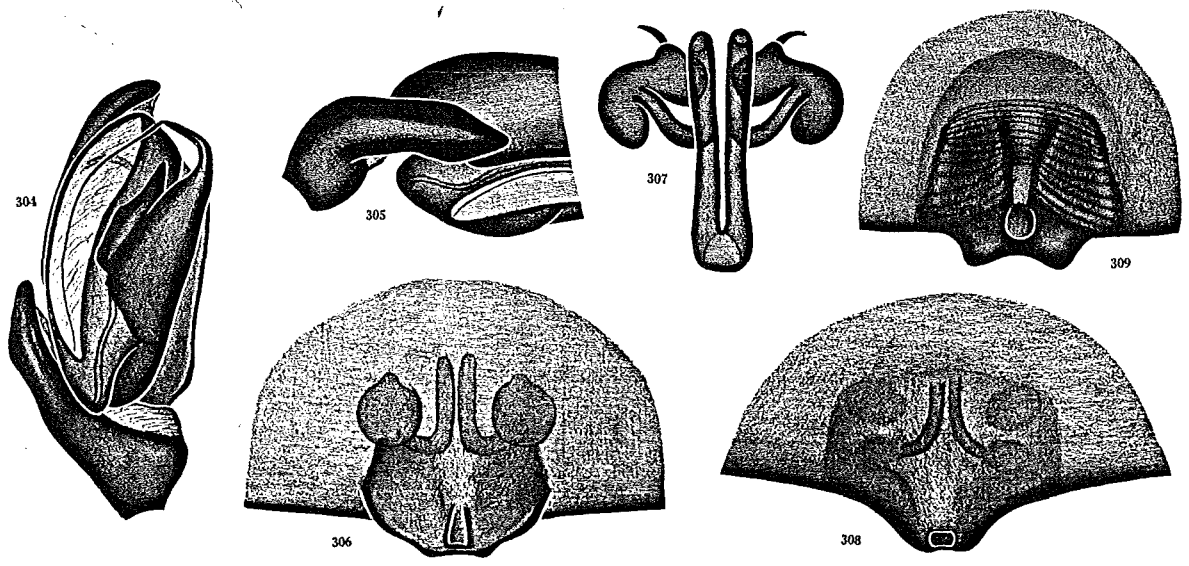
Carapace	length 3.0		width 1.9
Abdomen	length 3.9		width 2.2

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	1.6	1.1	1.5	1.2	0.7	6.1
2	1.7	1.1	1.4	1.1	0.6	5.9
3	1.5	0.7	0.9	1.1	0.5	4.7
4	1.6	0.8	1.5	1.8	0.6	6.3
Palp	0.7	0.4	0.3		0.8	2.2

The chelicerae have two teeth on each margin. The epigynum is readily distinguished from *cambridgei* by the slope of the outer margins while the receptacula are more widely spaced (Figs. 306, 307).

Types Holotype male, allotype female. Otago, Middlemarch, east of river, 10 April, 1971, T. R Beatson (Otago Museum).

Records South Island. Marlborough. Wairau-Rainbow Divide, 1524m, sweeping at night, 2.i.71, J. S. Dugdale. S. face Mt. Altimarlock, in *Festuca*, 20.i.70, J. S. Dugdale. Canterbury. Rough Creek, Arthurs Pass, 3.viii.74, A.D.B. Waimakariri River, edge, 10.viii.74, A.D.B. Fog Peak, Porters Pass, 1220m, 19.xii.54, R.R.F. Waimakariri, near Bealey, 29.ix.66, C.L.W. Otago. Glen Rock Stn. McKenzie Basin, beaten ex *Discaria* at night, 9.i.71, J. C. Watt. Top Flats, about 914m west branch Albert Burn, 4.v.74, K. Mason. Cadrona Valley, 6.ii.70, C.L.W. Queenstown Hill, under stones, 16.xii.52, B. J. Marples. Gorge Creek, 14.xii.67, C.L.W., R.R.F. Elbow Creek, near Roxburgh, under stones, 25.vii.67, R.R.F. Broken River, near Castle Hill Stn., tussock, 29.ix.66, C.L.W. Kokonga, pitfall, 6.iii.69, C.L.W. Patearoa, pitfall, 16.i.68, C.L.W. Wedderburn, pitfall 74, 9.ii.68, C.L.W. Eweburn, east branch, pitfall, 6.xii.67, 20.xi.68, C.L.W. Swinburn, 8.i.66, C.L.W. Swinburn Bridge, 26.xii.68, C.L.W. Hyde, pitfall, 27.i.68, 20.xi.65, C.L.W. Golden Point, Macraes Flat, 7.i.67, C.L.W. Dunback – Macraes Road, pitfall, 14.x.67, 14.iii.68, C.L.W.



Figs. 304-307 *Clubiona contrita* n. sp. Fig. 304 Male palp, ventral view Fig. 305 Tibia male palp, retrolateral. Fig. 306 Epigynum Fig. 307 Internal genitalia from above Fig. 308 *Clubiona torta* n. sp. Epigynum Fig. 309 *Clubiona blesti* n. sp. Epigynum

Middlemarch, east of river, 10.iv.71, B. Beatson. Deep Dell, pitfall, 30.vii.68, C.L.W. Summit Taieri Ridge, Deep Dell-Fillyburn, pitfall, 29.iii.69, C.L.W. near Kelso, 23.xi.69, C.L.W. Nenthorn, 23.iv.67, C.L.W. Corner Kyeburn Naseby Dansey Pass roads, pitfall, 16.xii.67, C.L.W. Near Melrose Station, Clinton-Wyndham Road, 10.iii.70, C.L.W. Waipori, grass clumps, 23.i.75, A.D.B. Flagstaff, tussock, 10.xii.75, R.R.F. Near Brighton, flax swamp, 20.i.76, R.R.F. Sutton, near Salt Lake, under stones, 25.iv.67, B. J. Marples. Fiordland, Greenstone Cascade Creek Saddle, 1320m, 18.xi.73, K. Mason. The Wilderness, Manapouri, 15.ii.66, C.L.W., R.R.F. Chatham Islands. Waitangi, sand dunes *Olearia traversi*, 24.ii.67 G. W. Ramsay. South East Island, plant 70/169, 9.xi.70, J. I. Townsend.

Remarks The distribution of this species coincides to some degree with that of *cambridgei* but is more commonly found in the south, mainly Otago while the center of distribution of *cambridgei* appears to be in Canterbury. It is difficult to separate the two species other than by genitalia but *contrita* is generally smaller.

Clubiona blesti n. sp.

Fig. 309

FEMALE

Measurements

Carapace	length 4.0	width 2.9	
Abdomen	length 5.9	width 3.1	

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	2.3	1.5	2.2	1.7	0.8	8.5
2	2.4	1.5	2.3	1.8	0.9	8.9
3	1.9	1.2	1.4	1.8	0.7	7.0
4	2.8	1.9	2.5	2.9	0.9	11.0
Palp	1.1	0.6	0.7		1.0	3.4

Colour Carapace and appendages yellowish brown. Dorso-median abdominal band extending down the full length but indistinct anteriorly. Lateral shading extending back from one third and merging posteriorly.

Eyes Two straight rows occupying 8/9 of the width. Ratio of AME.ALE.PME.PLE = 6.8.5.7. AME separated from each other by 6/6 and from the ALE by 8/6 of the diameter of an AME. Laterals separated by 9/6. PME separated by 20/6 and from the PLE by 14/6. MOQ wider behind than in front in ratio of 15:9 and as wide in front as long.

Chelicerae Retromargin with 2 and promargin with 5 teeth of which the second is largest and the distal minute.

Legs Spines: Leg 1 femur d.1.1.1. p.1 subdistal, tibia v.2.2.0. Leg 2 femur d.1.1.1. p.1 subdistal, tibia v.1.2.0, metatarsus v.1 basal. Leg 3 femur d.1.2.3, tibia v.1.1.0. p,r.1.1.0, metatarsus v.2.2. p,r.1.1.0. d.0.1.2. Leg 4 femur d.1.1.3, tibia v.1.1.1. p,r.1.1.0. d.0.1.2, metatarsus v.2.0.2. p,r.1.1.2 d.0.2.0.

Epigynum (Fig. 309). Strongly sclerotised and sunken laterally as *cambridgei* but posterior margin produced into a pair of distinct lobes.

Type Holotype female. Fiordland. Lyttles Flat, in wet tussock in bog, 17 February, 1975, A. D. Blest (Otago Museum), one female paratype.

Records South Island. Nelson. Lake Sylvester, Cobb, 1300m, tussock, 69/139, 30.iv.69, J. S. Dugdale.

Remarks Readily recognised by the shape of the epigynum. Males have not been found. It seems that this species is associated with tussock and should be looked for in mountain tussock regions where as yet little collecting for spiders has been undertaken.

Clubiona scatula n. sp.

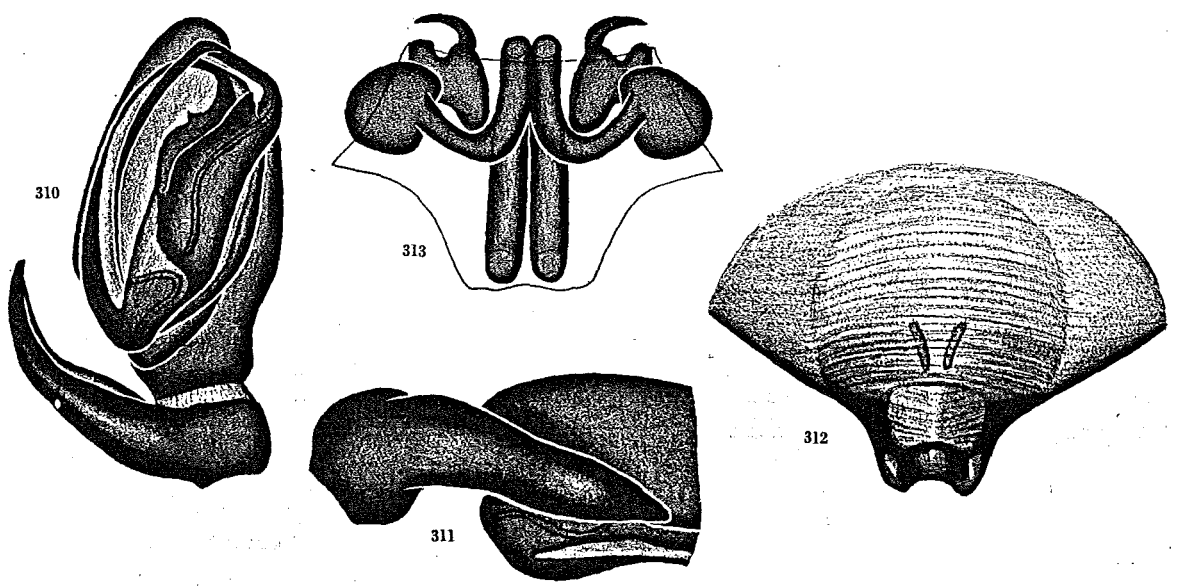
Figs. 310-312

FEMALE

Measurements

Carapace	length 2.6	width 1.9	
Abdomen	length 4.0	width 2.5	

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	1.5	0.9	1.2	1.0	0.5	5.1
2	1.5	1.0	1.2	1.0	0.6	5.3
3	1.4	0.9	0.9	1.1	0.5	4.8
4	1.9	1.0	1.5	1.8	0.7	6.9
Palp	0.7	0.4	0.3		0.6	2.0



Figs. 310-312 *Clubiona scatula* n. sp. Fig. 310 Male palp, ventral view Fig. 311 Retrolateral view tibia male palp Fig. 312 Epigynum Fig. 313 Internal genitalia from above

Colour Carapace orange brown, darker anteriorly. Legs paler. Abdomen with median dorsal band extending from one third to spinnerets. Lateral shading restricted to posterior half.

Eyes Two straight rows occupying 3/4 of width. Ratio of AME.ALE.PME.PLE = 4.5.4.4. AME separated from each other and PLE by 3/4 of width of an AME. Laterals separated by 2/4. PME separated by 10/4 and from the PLE by 7/4. MOQ wider behind than in front in ratio of 18:11, longer than wide in front in ratio of 12:11.

Chelicerae Retromargin with 2, promargin with 5 teeth.

Legs Spines. Leg 1 femur d.1.1.1. p.1 subdistal, tibia v.1.2.0. Leg 2 femur d.1.1.1. p.2 subdistal, tibia v.0.2.0. Leg 3 femur d.1.2.3, tibia v.1.1.0. p,r.1.1.0, metatarsus d.0.1.2. p,r.1.1.1. v.2.0.2. Leg 4 femur d.1.1.3, tibia v.1.1.2. p,r.0.1.1, metatarsus d.0.1.2. p,r.1.1.1. v.2.0.2.

Genitalia The scape of the epigynum is relatively narrow (Fig. 312) with two definite lobes. The internal genitalia appear to open from two separate openings (Fig. 313).

MALE

Measurements

Carapace	length 2.5		width 1.8
Abdomen	length 3.0		width 1.5

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	1.6	1.0	1.5	1.2	0.6	5.9
2	1.6	1.0	1.4	1.1	0.6	5.7
3	1.4	0.7	1.0	1.1	0.5	4.7
4	1.8	0.9	1.4	1.8	0.6	6.5
Palp	1.1	0.4	0.3		0.9	2.7

The palp is similar to *contrita* but the tibial process is longer (Figs. 310, 311).

Types Holotype female, allotype male. Canterbury. Waimakariri River, near Klondyke Corner, under stones, 6 July, 1974. A. D. Blest (Otago Museum).

Records Numerous specimens from the type locality. South Island. Otago. Cromwell, under stones, 7.xi.58, R.R.F.

Clubiona cada n. sp.

Figs. 288, 314-317

MALE

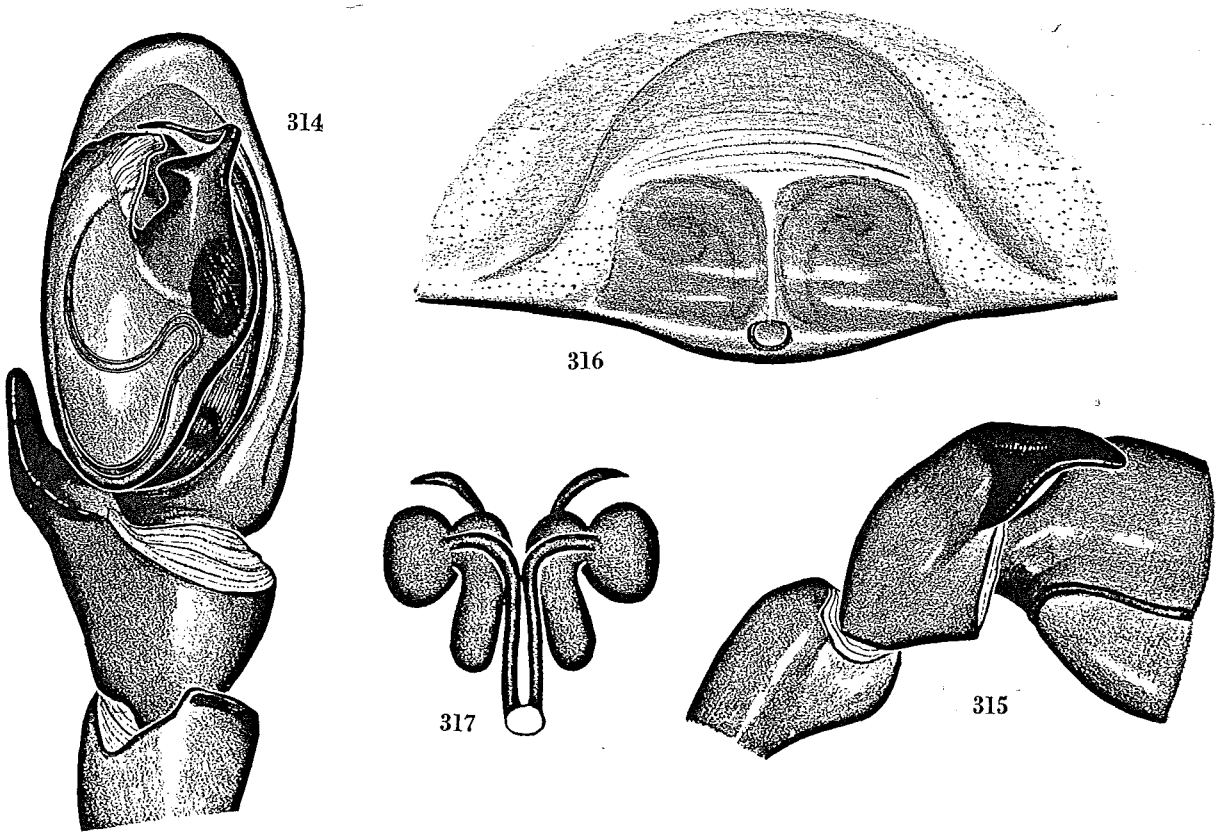
Measurements

Carapace	length 1.9		width 1.3
Abdomen	length 2.0		width 1.1

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	1.2	0.7	1.1	0.8	0.5	4.4
2	1.4	0.7	1.3	0.9	0.5	4.9
3	1.1	0.6	0.9	0.9	0.4	3.9
4	1.5	0.7	1.2	1.5	0.5	5.4
Palp	0.5	0.2	0.2		0.5	1.4

Colour Carapace and legs pale yellow brown. Abdomen with only vestiges of the median band. Posterior shading usually showing incomplete chevrons (Fig. 288).

Eyes Anterior row slightly recurved, posterior row slightly procurved occupying 7/8 of the width of the head. Ratio of AME.ALE.PME.PLE = 5.6.6.6. AME separated from each other by 5/5 and from the ALE by 3/5 of the diameter of an AME.



Figs. 314-317 *Clubiona cada* n. sp. Fig. 314 Male palp, ventral surface Fig. 315 Tibia male palp, retrolateral Fig. 316 Epigynum Fig. 317. Internal genitalia from below

Laterals separated by one diameter. PME separated from each other by 13/5 and from the PLE by 7/5. MOQ wider behind than in front in the ratio of 25:15 and longer than wide in front in ratio 18:15.

Sternum Longer than wide in ratio 7:5.

Labium Basal notch shallow. Longer than wide in ratio 15:11.

Chelicerae Two teeth on each margin.

Legs Spines. Legs 1,2 femora d.1.1.1. p.1 distal, tibia v.1.2. Scopula relatively weak on metatarsi and tarsi of legs 1,2 and tarsi of legs 3,4.

Palp Embolus distal, sharply bent across the bulb but not reaching the retromargin (Fig. 314). The lightly sclerotised portion of the tegulum which serves as conductor in this genus is very small. Tibial process as in Fig. 315.

FEMALE

Measurements

Carapace	length 1.8		width 1.4
Abdomen	length 2.6		width 1.5

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	1.1	0.6	0.8	0.6	0.4	3.5
2	1.1	0.6	0.8	0.7	0.4	3.6
3	1.0	0.6	0.7	0.8	0.4	3.6
4	1.3	0.7	1.0	1.1	0.4	4.5
Palp	0.4	0.2	0.3		0.4	1.1

The epigynum is small and weakly sclerotised. There is a single opening leading to the ducts (Figs. 316, 317).

Types Holotype male, allotype female. Otago. Dunedin Botanical Gardens, in loose *Fuchsia* bark, 21 September, 1959, J. Kikkawa (Otago Museum).

Records North Island. Northland. Castaway Camp, Three Kings Island, xi.70, G. Kuschel. West Island, Moko Hinau Islands, 24.viii.55, R. A. Harrison. Auckland. Red Mercury Island, x.71, D. Court. Te Kaha, Waipa Cove, 3.2 km west of Arapuni Dam, 4.x.66, K. A. Wise. Blue Lake, Rotorua, 29.ii.60, C. W. O'Brien. Mataraka, 21.v.67, R.W.H., C.L.W. Taranaki, Patea Beach, 20.iii.69, Oakura, grass under flax, 10.vii.75, A.D.B. Hawkes Bay, Waipatiki, 23.ii.64, R.W.H. Clifton, 27.xii.47, R.R.F. Taradale, 4.vi.63, R.W.H. Wellington, Ohakune, Mountain Road, about 1220m, beaten from Mountain Beech, 4.i.62, B. A. Holloway. Taihape, 11.i.69, R.W.H. Turakina, 18.i.43, Mikimiki, 14.ix.67, C.L.W. Foxton, 15.i.67, R.R.F. Mangareia, x.57, C.L.W. Titahi Bay, 21.vi.41, F. A. Bodley. Wellington, 16.xi.46, J. H. Sorenson. Wellington, x.56, J. Pauling. South Island. Nelson. Sulphur Wells, 7.iv.58. Marlborough. Kaikoura, flax, tussock, 18.v.74, A.D.B. Canterbury. Christchurch, Brighton Beach, 28.i.60, R. E. Leech. Deans Bush, Christchurch, flax, 23.x.75, A.D.B. South New Brighton, marram, 11.v.74, A.D.B. Kaituna, Banks Peninsula, 2.xi.66, R.R.F. Peel Forest, 9.ii.46, R.R.F. Westland, Otira Gorge, 13.xii.61, B. J. Marples. Spencer Park Beach, 9.xi.58, R. L. C. Pilgrim. Otago. Bucklands Crossing, 29.i.66, C.L.W. Evansdale Glen, 21.x.73, R.R.F. Aramoana, Dunedin, flax and rushes, 15.v.66, C.L.W. Dunedin, Botanical Gardens, 21.ix.59, 11.i.60, J. Kikkawa. Ross Dam, Dunedin, 19.xii.65, C.L.W. St. Clair parade, 29.i.67, R.R.F. Portobello, 21.v.67, R.W.H., C.L.W. Lake Tuakitoto, Kaitangata, Niggerhead, 14.ix.67, R.R.F. Balclutha Plant Reserve, 29.ix.59, R.R.F. Fiordland. Cascade Creek, 12.i.71, R.R.F.

This and the following species are readily recognised by their small size. The single opening in the epigynum of *cada*, the form of the embolus and the pigmentation of the abdomen makes the separation of the species simple. While both this species and *clima* may be found in association with species of the *cambridgei* group they are also found in marginal forest and in disturbed forest habitats under loose bark on the trunks of trees, particularly tree Fuchsia.

Clubiona clima n. sp.

Figs. 287, 318-322

FEMALE

Measurements

Carapace	length 2.1		width 1.5
Abdomen	length 2.6		width 1.5

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	1.1	0.6	0.9	0.7	0.4	3.7
2	1.1	0.7	1.0	0.7	0.4	3.9
3	1.1	0.6	0.7	0.8	0.4	3.0
4	1.5	0.7	1.1	1.4	0.5	5.2
Palp	0.5	0.3	0.3		0.5	1.6

Colour Carapace reddish brown. Legs paler. Abdomen strongly shaded with a prominent median band extending down more than half of the dorsal surface where a number of narrow chevrons merge with the lateral shading which extends along the whole length of the abdomen (Fig. 287). Ventral surface with a broad band extending back from the epigastric groove to the spinnerets.

Eyes Ratio of AME.ALE.PME.PLE = 3.4.4.4. AME separated from each other and the ALE by a distance equal to 4/3 diameter of an AME. Laterals separated by a full diameter. PME separated by 11/3 and from the PLE by 6/3. MOQ wider behind than in front in ratio of 19:10 and longer than wide in ratio 11/10.

Sternum Typical, longer than wide in ratio of 13:8.

Maxillae Distal outer portion expanded. Longer than wide in ratio of 9:4.

Labium Basal notches long and shallow. Anterior margin gently indented. Longer than wide in ratio of 5:4.

Chelicerae Retromargin with 3 teeth. Promargin with only a low ridge.

Legs Scopula on tarsi and metatarsi of legs 1,2 and tarsi of legs 3,4. Few scopula hairs on distal tibia of leg 1. Spines: Leg 1 femur d.1.1.1. p.1 distal, tibia v.2.2. Leg 2 femur d.1.1.1. p.1 distal, tibia v.2.2, metatarsus v.1 proximal.

Genitalia Epigynum with two openings (Fig. 320). Receptacula spherical and narrowly joined (Fig. 321, 322).

MALE

Measurements

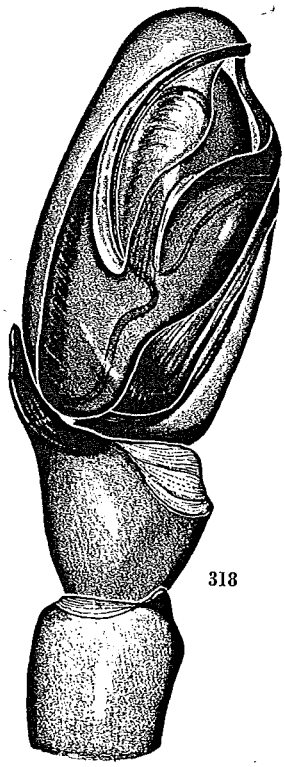
Carapace	length 2.4		width 1.6
Abdomen	length 2.7		width 1.4

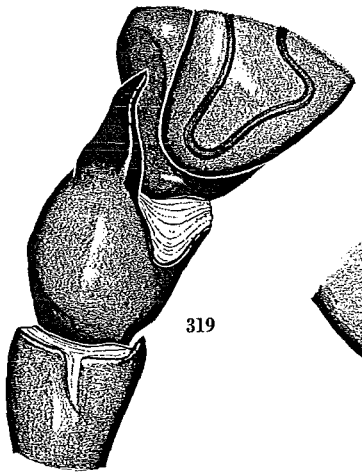
Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	1.5	0.9	1.5	1.0	0.5	5.4
2	1.5	0.8	1.5	1.1	0.5	5.4
3	1.3	0.7	0.9	1.1	0.5	4.5
4	1.8	0.9	1.4	1.7	0.6	6.4
Palp	0.8	0.4	0.3		0.6	2.1

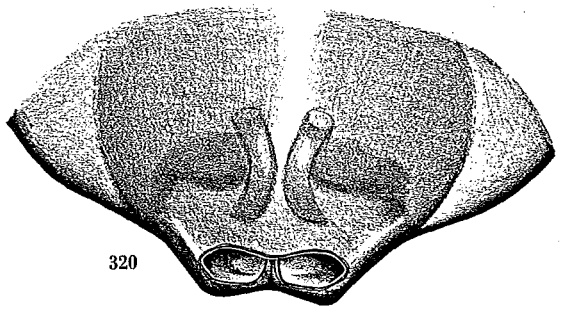
The embolus of the palp is twisted distally and extends back halfway down the retromargin (Fig. 318). The tibial process is relatively short but stout (Fig. 319).

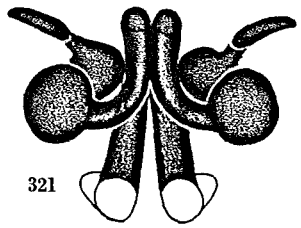
Types Holotype female, allotype male. Wellington. Foxton, in grass, 15 January, 1967, R. R. Forster (Otago Museum).

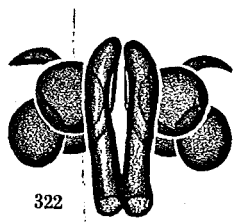
Records North Island. Three Kings Island, South West Island, 1.xii.70, G. W. Ramsay. Auckland. Kohukohu, by roadside, 20.viii.53, B. J. Marples. Mount Albert, 3.ii.49, R. K. Dell. Auckland, 3.1.74, R.R.F. Karekare, under log sand beach, above high tide, 1970, M. P. Buchler. Whale Island, Bay of Plenty, 27.xi.70, Auckland University Field Club. Whangaroa, Tauranga Bay, 28.ix.66, K. A. J. Wise. Rotorua, Wasteland, 1.xii.75, A.D.B. Rotorua, Motapuhi Island, 15.v.68, R.W.H. Lake Rotoehu, near Hongis Track, 4.x.69, C.L.W. Wharerata Lookout, near Gisborne, 30.ix.69, C.L.W. Moanatuatua Swamp, 22.vi.74, 23.vi.74, A.D.B. Taranaki. Oakura, grass under flax, 10.vii.75, A.D.B. Kawerau, 14.v.73, D. Court. Hawkes Bay. Taradale, 19.xii.65, R.W.H. Waitetola, 25.i.56, 8.xi.68, R.W.H. Wellington. Apiti-Utawai Road, nigger head, 28.iv.72, C.L.W. Foxton, grass, 15.i.67, R.R.F. Kapiti Island, v.47, R.R.F. Gollan Valley, 29.ix.41, R.R.F. South Island. Nelson. Stephens Island, 30.xi.53, B. A. Holloway. Parkes 88-Valley, 369064, inside metal emergence trap, 26.i.71, N. A. Martin. Marlborough. Conway, near Conway Stream, 25.iii.69, C.L.W., R.R.F. Hapuku Road, Kaikoura, 16.iii.69, C.L.W., R.R.F. Kaikoura area of flat,











Figs. 318-322 *Clubiona clima* n. sp. Fig. 318 Male palp, ventral view Fig. 319 Prolateral surface tibia male palp Fig. 320 Epigynum Figs. 321-322 Internal genitalia Fig. 321 from below Fig. 322 from above

raised shingle. Kaikoura, grass roots on steep slope, First Bay, 18.v.74, A.D.B. South of Conway River, tussock, 28.vi.74, A.D.B. Canterbury, Arthurs Pass, Rough Creek, 3.viii.74, A.D.B. Kaiapoi, 24km north of Christchurch, 4.ii.60, R. E. Leech. Port Levy, 22.iv.50, J. S. Dugdale. Kaituna Valley, Banks Peninsula, 2.xi.66, 24.v.75, 28.v.75, R.R.F. McQueens Valley, 9.vi.67, R. McFarlane. Hoods Bush, Malvern Hills, 3.v.53, R.R.F. Peel Forest, nigger head, 30.ix.66, R.R.F. Westland. Mt. Hercules, 29.ix.66, C.L.W., R.R.F. Hokitika Beach, grass roots, 6.ix.74, A.D.B. Hokitika River, grass, 2.ix.74, A.D.B. Otago. Waianakura, near Red Flat Point, Misery Road, 24.iv.77, T. R. Beatson. Leith Saddle, beating grass, 15.ix.66, C.L.W. Flagstaff, Dunedin, 14.v.70, C.L.W. Dunedin, 8.i.71, E. Edgar. Henley, grass in swamp, 20.iv.75, R.R.F. Waipori Gorge, grass clumps, 23.i.75, A.D.B. Middlemarch, east of river, 10.iv.71, B. Beatson. Lake Tuakitoto, near Kaitangata, nigger heads, 14.ix.67, R.R.F. Near Kelso, 23.xi.69, C.L.W. Balclutha Plant Reserve, 20.xi.58, 21.iv.66, R.R.F. Fiordland. Martins Bay, 1.ii.65, J. S. Dugdale, R.R.F. Lake Alabaster, Pyke Valley, airstrip, litter 67/12, 11.i.67, A. K. Walker. Southland. Bridge Waipahi Stream, near the Cairn Station, Clinton-Wyndham Road, 12.iii.70, C.L.W. Near Chimney, Clinton-Wyndham Road, 10.iii.70, C.L.W. Lake Hauroko, 25.xi.70, C.L.W., R.R.F.

The only species which *clima* may be confused with is *cada* from which it is readily separated by the more intense colouration of the abdomen and the form of the genitalia. It is possible to separate out the spiders from the northern portion of the North Island on details of the female genitalia but the form of the bulb of the male palp is identical.

Clubiona peculiaris Koch C. L.

Clubiona peculiaris Koch C. L. 1873. Die Arachniden Austr. 1:427. Urquhart 1892. Trans. N. Zeal. Inst. 25:222. Simon 1905. Zool. Jahrb. Syst. 21:417, 418. Dalmas 1917. Ann. Soc. ent. Fr. 86:393. Berland 1925. Rec. Cant. Mus. 2:295. Bonnet 1956. Bibliogr. Aran. 2(2):1144. Marples 1956. Rec. Auckl. Inst. Mus. 4(6):332.

Figs. 291, 323-327

FEMALE

Measurements

Carapace length 3.3 width 2.2
Abdomen length 5.4 width 3.4

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	1.9	1.1	1.7	1.4	0.8	6.9
2	2.1	1.2	1.8	1.5	0.8	7.4
3	1.7	1.0	1.1	1.6	0.5	5.9
4	2.4	1.3	1.9	2.4	0.7	8.7
Palp	1.0	0.4	0.5		0.6	2.5

Colour Cephalothorax and appendages orange brown, darker around the eyes. Abdomen cream in alcohol patterned with reddish brown spots and lateral shading as in Fig. 291.

Carapace Clothed with fine adpressed hairs which are silky white on the head.

Eyes Two straight rows which occupy 11/15 of the head width. Ratio AME.ALE.PME.PLE = 7.7.7.9. AME separated by 7/7 and from the ALE by 11/7 of the diameter of an AME. Laterals separated by 4/7. PME separated by 21/7 and from the PLE by 16 7. MOQ longer than wide in ratio of 22:21.

Sternum Typical, longer than wide in ratio of 18:13.

Maxillae Parallel, slightly constricted mesially. Longer than wide in ratio of 13:7.

Labium Basal notch shallow. Lateral margins straight and slightly convergent. Longer than wide in ratio 16/11.

Chelicerae Retromargin 2 teeth. Promargin 4 of which second is large and distal smallest.

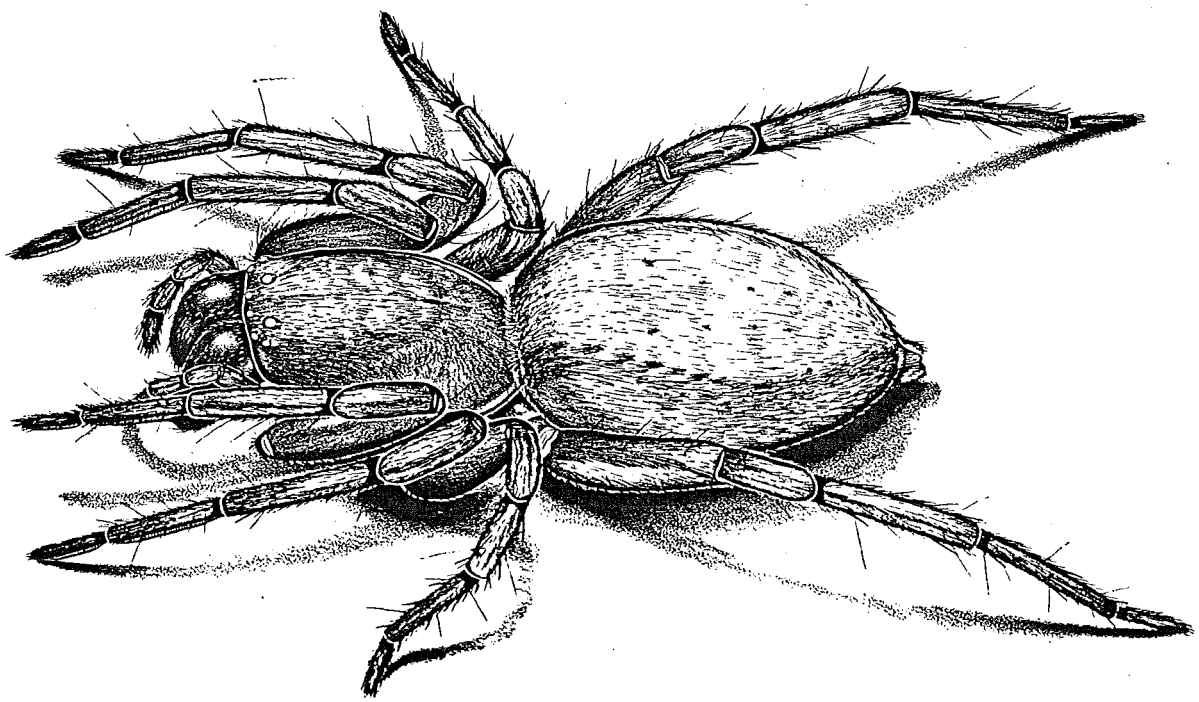
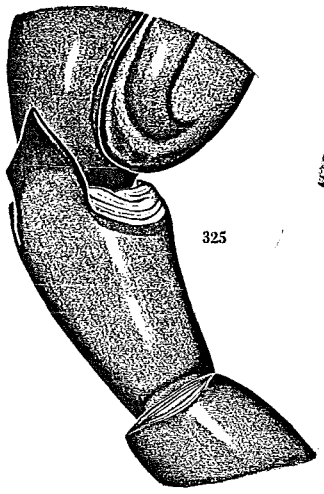
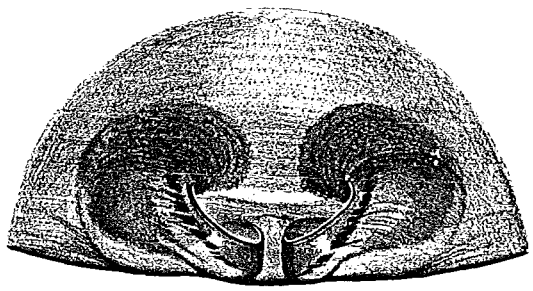
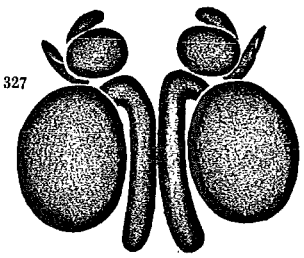


Fig. 323 *Clubiona peculiaris* Koch Female







s. 324-327 *Clubiona peculiaris* Fig. 324 Male palp, ventral surace Fig. 325 Retrolateral surface tibia male palp Fig. 326 Epigynum Fig. Internal genitalia from above

gs Thick scopula on both tarsi and metatarsi of legs 1,2 and sus of 3,4. Spines: Leg 1 femur d.0.1.2 p.1 distal, tibia v.1.1. Leg emur d.0.1.1 p.1 distal, tibia v.1.1. Leg 3 femur d.1.1.3, tibia .1. p,r.1.1. metatarsus d.0.1.1. p,r.1.1.2. v.2.0.2. Leg 4 femur .1.3, tibia v.2.2.1. p,r.1.1.1. d.0.1.2.

nitalia The epigynum (Fig. 326) is characteristic and cannot confused with any other New Zealand species. The internal nitalia (Fig. 327) retain the double receptacula but the ducts are irt.

LE

asurements

Carapace	length 3.3		width 2.2
Abdomen	length 3.6		width 2.1

g	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
	1.9	1.2	1.8	1.5	0.8	7.2
	2.2	1.2	2.1	1.6	0.8	7.9
	1.7	1.0	1.3	1.6	0.7	6.3
	2.7	1.3	2.2	2.7	0.8	9.7
lp	0.9	0.5	0.3		1.0	2.7

nilar to the female in all general characters. Palp as in Figs. 324, 5. The embolus is relatively stout and short, extending less than e third down the promargin of the bulb. The blunt distal rtion seems to be natural and separates this species from all ner similar species. The bulb itself and the cymbium is also atively squat.

ypes Original description based on a male from uckland. Vienna Museum.

ecords North Island. Three Kings Islands. Great land, 4.v.46, 9.v.46, E. G. Turbott. Great Island, eating Kanuka, 11.i.53, E. G. Turbott. Castaway amp, xi.70, G. W. Ramsay. Castaway Camp, ower Tasman Valley, xi.70, G. Kuschel. Great land, 1-3.i.63, E. S. Gourlay. Northland. Poor nights Island, Whero, North Auckland, B. J. larples. Great Barrier Island, Motairehe, 12.xi.63, .. G. Ordish. Great Barrier Island, Katherine Bay, lotairehe, 1.iv.65, J. Anderson. Great Barrier Is- nd, Whangaparapara, 21-29.ix.72, D. Court. Little Barrier Island, Summit Track, 390-550m in shrubs, 2.ix.59, J. Kikkawa, A. Chapman. Cuvier Island, 22.vi.43, R.R.F. Auckland. Lake Rotoehu, near Hongis Track, 4.x.69, C.L.W. Lake Okatainia, 29k east of Rotorua, 2.iii.60, C. W. O'Brien. Rotorua, 25-27.iv.52, B. J. Marples. Rotorua, 24.viii.70, D. Court. Taranaki, Mt. Egmont above Stratford Mountain House, 23.iii.69, R.R.F., C.L.W. Manawatu. Bruce Park, near Hunterville, 1.i.67, R.R.F., D.R.F. Kitchener Park, Feilding, 26.xii.73, R.R.F. Vinegar Hill Reserve, 10.i.74, R.R.F. Wanganui, inside empty *Oeceticus* case in sparse Manuka grove, 17.viii.71. Wellington. Kapiti Island, i.28, A. Castle. Kapiti Island, v.47, R.R.F. Otaki, 7.ii.43, Titahi Bay, 21.vi.41, F. A. Bodley. Wellington, 18.v.42, R.R.F. Wairarapa. Kiriwhakapapa, 8.iii.66, C.L.W. Te Warau, near Hikurangi Station, 13.ix.70, C.L.W. Mangareia, Masterton, 13.iii.48, 4.iii.67, C.L.W. South Island. Nelson. Pupu Springs, Takaka, 13.viii.66, C.L.W. Mt. Arthur Track, 970-1065m, 3.ii.46, J. T. Salmon. Leslie Valley Track, under log, 21.iv.48, R. K. Dell. Growler, Flora Track, ex foliage, 27.i.48, R.R.F. Flora Hut, on logs at night, 20.i.48, R.R.F. Tawhai, S.F., Big R. Road, 24.i.72, J. S. Dugdale. Marlborough. Mt. Fyfe, *Fuchsia* bark, 30.vi.74, A.D.B. Canterbury. Arthurs Pass, 670m, 3.iii.60, J. S. Sedlacek. McGarths Bridge, Arthurs Pass, 2.xi.69, C.L.W. Lewis Pass, 8 km east Springs Junction, 2.iii.60, C. W. O'Brien. Waipara Gorge, 1.v.49, R.R.F. Kennedys Bush, Port Hills, in leaf mould, 4.iii.43, J. T. Salmon. Kaituna Valley, 13.iv.67, R.R.F., C.L.W. Kaituna Valley, 12.ix.52, R.R.F. Peel Forest, 9.ii.46, R.R.F. The Hermitage, 760m, 4.ii.60, J. S. Sedlacek. Westland. Taumaka, Open Bay Islands, in axils *Freycinetia banksii*, 20.viii.70, D. S. Horning. Taumaka, Open Bay Islands, 7.i.71, M. E. Miller. Otago. Waitati, 15.x.51, W. Poppelwell. Allans

ach, 5.iii.43, Dunedin 1920. St. Clair Beach, in arram, 2.ix.71, M. Efford. Dalmore, Dunedin, v.66, T. Bruce. Bull Creek, 14.v.67, R.W.H., .L.W. Waipahi Stream, near the Cairn station, linton-Wyndham Road, 12.iii.70. Fiordland. Lake ook, head of Big River, swept from forest shrubs, 60, N. A. Chapman. Haast, night collecting, .66, R.R.F. Eglinton Valley, Falls Creek, R.R.F. Spey River, 23.ii.59, Otago University Biological Society. Southland. Lake Hauroko, 11.iii.70, C.L.W. Western Te Waewae Bay, 11.iii.70, C.L.W. Stewart Island. Halfmoon Bay, iv.49, O. Allen. Codfish Island, 14.vii.48, C. J. Lindsay. Oban, iii.60, G. Collett. Oban, 23.ii.72, C.L.W. Big South Cape Island, 16.ii.69, B. A. Kuschel. Chatham Islands. Waitangi, i.46, J. Ardley. Owenga, near stream, 22.xi.70, J. I. Townsend. Waitangi, beating, 9.ii.67, G. W. Ramsay. Waitangi, 17.ii.67, G. W. Ramsay. Hapupu, at night, 27.ii.67, G. W. Ramsay. Kaingaroa, general beating ex Nikau Palm, 28.ii.67, G. W. Ramsay.

While superficially similar to *C. huttoni*, with which species it has been confused in the past, *C. peculiaris* stands alone. Apart from a few heavily pigmented specimens of *huttoni* it can be readily recognised by the lateral shading of the abdomen as well as the structure of the genitalia. The species is usually found in bush margins or scrub and has the widest distribution of any of the clubionids being recorded from the Three Kings Islands in the north to Stewart Island in the south and also from the Chatham Islands. In no area does it seem to be the dominant species. The taxonomic status of the species and its wide distribution does indicate that it has an efficient dispersal mechanism not shared with many of the New Zealand clubionids. It is also possible that the species is a relatively recent immigrant in which case it should also be found in Australia.

Clubiona consensa n. sp.

Figs. 296, 328-331

MALE

Measurements

Carapace	length 2.1		width 1.7
Abdomen	length 2.9		width 1.6

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	1.7	0.9	1.4	1.2	0.6	5.8
2	1.8	0.9	1.5	1.0	0.7	5.9
3	1.6	0.7	1.1	1.3	0.5	5.2
4	2.2	0.8	1.5	2.1	0.7	7.3
Palp	0.6	0.3	0.3		0.6	1.8

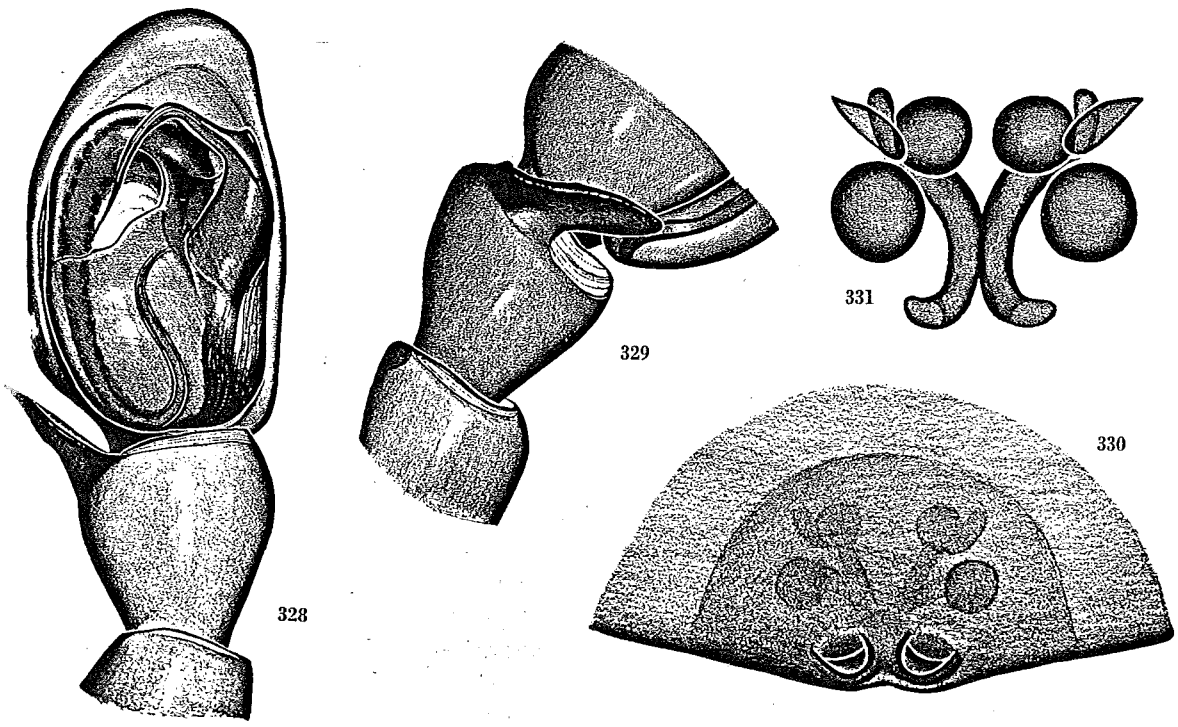
Colour Carapace and legs pale reddish brown. Abdomen weakly spotted on the dorsal surface (Fig. 296) but without ventral spotting.

Eyes Two straight rows occupying 8/9 of the head width. Ratio of AME.ALE.PME.PLE = 5.6.6.7. AME separated from each other by 4/5 and from the ALE by 3/5 of the diameter of an AME. Laterals separated by 4/5. PME separated by 12/5 and from the PLE by 6/5. MOQ wider behind than in front in ratio of 24:14 and longer than wide in front in ratio of 15:14.

Chelicerae Two teeth on each margin.

Legs Spines: Legs 1.2 femur d.1.1.2. p.1 distal, tibia v.2.2.

Palp The embolus is short, originating distally, twisted sharply to the retromargin where it extends back about one third of the length of the bulb (Fig. 328). The tibial process is small, narrow and directed ventrally. (Fig. 329).



328-331 *Clubiona consensa* n. sp. Fig. 328 Male palp, ventral view Fig. 329 Retrolateral surface tibia male palp Fig. 330 Epigynum 331 Internal genitalia from above

MALE

Measurements

Carapace	length 2.5		width 1.7
Abdomen	length 3.7		width 2.1

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	1.7	0.8	1.2	0.9	0.5	5.1
2	1.9	0.8	1.3	0.9	0.6	5.4
3	1.4	0.7	0.9	1.2	0.5	4.7
4	2.1	0.9	1.5	1.9	0.7	7.1
Palp	0.5	0.3	0.4		0.5	1.7

The general appearance of the epigynum is similar to *huttoni* but the two pairs of receptacula show as round patches (Fig. 330). The receptacula are narrowly joined and the ducts are simple and lead directly to the surface (Fig. 331).

Types Holotype male. Fiordland. Lake McKerrow, near Pyke Junction, 25 January, 1959, J. Kikkawa. Allotype female. Stewart Island, Port William, 8 January, 1956, I. Mannering (Otago Museum).

Records North Island. Northland. Mixed Kauri forest beside Pandora Track, 4.xii.60, B. A. Holloway. Taputaputa Track, Spirits Bay, mixed Kowhai bush foliage, 3.xii.62, B. A. Holloway. Bush near Mt. Te Paki, 1.xii.60, B. A. Holloway. Manganui Cove, South-west Mt. Te Paki, Keenes Kauri Bush, 23.xi.67, K. A. J. Wise. Mangamuka Gorge, ex bush, 19.viii.53, B. J. Marples. Whangarei, forest 5 km west of Matapouri, leaf litter, 18.xii.66, K. A. J. Wise. Whangarei Heads, malaise trap, 27.iii.70, H. A. Oliver. Ruamahuaiti Island, 10.xi.72, G. W. Ramsay. Auckland. Fanal Island, Moko Hinau Islands, 23.viii.55, R. A. Harrison. Cuvier Island, 22.vi.43, R.R.F. Te Hope-Moehau Track, Coromandel, 456-608m, 17.i.52, T. E. Woodward. Kennedy Bay, Coromandel, bush relicts malaise trap, 5-7.iv.69, H. A. Oliver. Whakatane, Rewarewa litter, 10.x.65, M.L. Rangitoto Island, litter under *Griselinea littoralis, Metrosideros excelsa* and *Astelia* on lava field, 72/159, 4.vi.72, J. C. Watt. Bali Point, Taupo, 16.v.68, R.W.H. Amaho Stream, North-west Taupo, 27.iii.69, H. A. Oliver. Poronui, West Taupo, litter Beech forest, 31.i.56, R. K. Dell. Forest Park, Central Plateau, Kaimanawa Road, malaise trap, 24-25.xi.71, H. A. Oliver. Coromandel Peninsula, Litter 72/52, 19.i.72, G. W. Ramsay. Waimanga Scenic Reserve, Rotorua, 21.xi.74, A. K. Walker. Gisborne. Motu River, near mouth, 2.x.69, C.L.W. Taranaki. Tangarakau Gorge, 25.ii.67, C.L.W. Oakura Beach, 21.iii.69, C.L.W., R.R.F. Hawkes Bay. Aniwaniwa, Waikaremoana, 9-16.iii.69, H. A. Oliver. Huia, Waikaremoana, malaise trap, 25.iv.70, H. A. Oliver. Lake Waikaremoana, litter 72/16, 72.17, 17.i.72, G. W. Ramsay. Ohinekaku, Ahimanawa Range, litter 72/12, 14.i.72, G. W. Ramsay. Wellington. Erua, 26.ii.67, C.L.W. Ohakune, 900m, malaise trap, 7-8.xi.70, H. A. Oliver. Matahiwi, Masterton, 5.iii.67, C.L.W. Stokes Valley, ex leafmould, 3.viii.52, B. A. Holloway. Stokes Valley, ex leaf mould, 10.i.48, R.R.F. Kapiti Island, iv.47, v.47, R.R.F. South Island. Nelson. Westhaven-Pakawau Road, 13.viii.66, C.L.W. Graham Valley, Motueka, 12.iv.68, C.L.W. State Forest I, Pakawau, litter 71/105, 28.v.71, J. S. Dugdale. 6 km south of Bainham, 9.iii.67, C.L.W. Fletchers Creek, B.F.U.P. litter 72.114, 7.iii.72, J. McBurney. Karamea Saddle, 516m, litter 70/157, 13.x.70, J. I. Townsend. Oparara, Karamea, litter 71/47, 11.iii.71, J. I. Townsend. Karamea, litter, 5.ii.65, N. A. Walker. Big River, Kahurangi, litter 70/150, 23.iii.70, F. Alack. West Inangahua State Forest, B.F.U.P. litter 72/49, 18.iv.72, J. S. Dugdale. 6km south-west of Rotokohui, B.F.U.P. moss and litter, 72/96, 28.i.72, J. S. Dugdale. Copleston, Flowers Creek, ridge top 4½km south east of Cronadun, B.F.U.P. litter 72/97, 25.i.72, J. C. Watt. Main ridge, Copleston Res.BR B.F.U.P. litter 73/9, 12.i.73, J. C. Watt. Copleston Beetle Reserve, 243m, Redmans Creek N.N. litter 73/107, J. C. Watt. Redmans Creek, Copleston Br. B.F.U.P. litter 73/13, 10.i.73, J. C. Watt. Copleston Beetle Reserve, Redmans Creek, litter 73/103, 6.iv.73, J. C. Watt. Mawhera State Forest, B.F.U.P. litter 72/117, 8.iii.72, J. S. Dugdale. Baldy Ridge, 1402m, Matakitaki-Glenroy Divide, mats 71/94, 6.iv.71, J. I. Townsend. Springs Junction, Lewis Pass, 25.iv.77, R.R.F. Third House Dun Track, litter 71/114, 14.ix.71, G. W. Ramsay. Waipuna, Grey Valley, litter 71/97, 2.iv.71, J. S. Dugdale. Marlborough. Clara Bay, Marlborough Sound, litter 70/147, 17.ii.70, J. I. Townsend. Shakespeare Bay, S.D. litter 73/30, 21.ii.73, J. McBurney. North of Conway, Beech forest, 25.iii.69, C.L.W., R.R.F. Picton, 24.iii.69, C.L.W., R.R.F. Motuaru Island, Queen Charlotte Sound, 11.xi.61, B. A. Holloway. Westland. Mawhera State Forest, Tuttys Plateau, B.F.U.P. litter 72/145, 19.iv.72, J. S. Dugdale. Mawhera State Forest, litter 71/118, 6.x.71, J. S. Dugdale. Lake Kanieri, 21.ii.60, J. L. Gressit. Gillespies Beach, 13.xii.60, P. R. Kettle. J. I. Townsend. East Reefton, litter 65/38, 10.ii.65, N. A. Walker. Waiho, 27.ix.66, C.L.W., R.R.F. Franz Josef Glacier, 19.ii.60, J. L. Gressitt. Otago. Mt. Allan Road near Salisbury Road, tussock, 13.xii.69, C.L.W. Kidds Bush, Hawea Valley, litter 73/29, 28.i.73, J. C. Watt. Fiordland. Deep Cove, xi.58, R. Paulin. Spey, moss, 13.ii.59. Southland. Colac Bay area, 24.xi.70, C.L.W., R.R.F. Bush near Chimney, Clinton-Wyndham Road, 12.iii.70, C.L.W. Granity Park, nigger heads, 28.ix.66, C.L.W., R.R.F. Stewart Island. Port William, 6.i.56, I. Mannering. Golden Bay, i.61, M. N. Watt. Stewart Island, 31.i.61, J. Kikkawa.

This distinctive species seems to be the only New Zealand *Clubiona* which is a true forest dweller. It is often collected from the forest floor amongst moss and litter or on ferns and low shrubs at night.

Clubiona huttoni n. sp.

Figs. 21, 22, 292, 332-337

MALE

Measurements

Carapace	length 3.25	width 2.2
Abdomen	length 3.5	width 2.0

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	1.7	1.1	1.9	1.5	0.8	7.0
2	2.2	1.3	2.1	1.6	0.8	8.0
3	1.8	0.9	1.3	1.6	0.6	6.2
4	2.4	1.1	2.0	2.8	0.8	9.1
Palp	1.0	0.5	0.3		1.0	3.0

Colour Carapace reddish brown, darker around the eyes. Abdomen strongly speckled dorsally and ventrally (Fig. 292).

Eyes Two straight rows occupy 11/12 of the head width. Ratio of AME.ALE.PME.PLE = 4.6.5.6. AME separated from each other and from ALE by 6/4 of width of AME. Lateral eyes separated by same distance. PME separated by 15/6 and from PLE by 10/6. MOQ longer than wide in ratio 8:7.

Sternum Wider than long in ratio of 25:17.

Maxillae Distal third of outer margin strongly expanded. Longer than wide in ratio of 11:5.

Labium Longer than wide in ratio of 15:11. Lateral margins straight and convergent. Anterior margin slightly indented. Basal notches shallow.

Chelicerae Both margins with two teeth.

Legs Scopula on tarsus and metatarsus of legs 1,3; on tarsi only of legs 3,4. Spines: Legs 1,2 femur d.1.1.1. p.1 subdistal, tibia v.2.2.

Palp (Figs. 383, 384) The embolus is relatively long and slender originating about halfway along retromargin and curving around approximately halfway down the promargin.

FEMALE

Measurements

Carapace	length 2.7	width 1.85
Abdomen	length 4.8	width 3.1

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	1.5	0.9	1.2	1.0	0.5	5.1
2	1.6	0.9	1.3	1.0	0.5	5.3
3	1.3	0.7	0.9	1.6	0.5	5.0
4	2.0	0.9	1.5	2.0	0.6	7.0
Palp	0.7	0.3	0.4		0.6	2.0

The two receptacula of the internal genitalia are broadly joined and this region shows up in the epigynum of preserved specimens as a dark patch (Figs. 336, 337).

Types Holotype male, allotype female. Dunedin, St. Clair, 2 February, 1970, R. R. Forster (Otago Museum).

Records North Island. Auckland, Red Mercury Island, ix.71, D. Court. Red Mercury Island, litter, 72/229, 24.xi.72, G. W. Ramsay. Lake Rotoehu, near Hongis Track, 4.x.69, C.L.W. Rotorua, 29.vii.70, D. Court. Rotorua, Waipa Forest, Treefern/pine detritus, 4.xii.75, A.D.B. Rotorua. Blue Lake, grass roots, 13.xii.75, A.D.B. Waikareiti Track, on foliage, 10.xii.46, 14.xii.46, R.R.F. Waikareiti Track, 23.x.66, R.W.H. Taranaki, Opunake, ix.54, L. Simpson. Manawatu, Foxton, in grass, 15.i.67, R.R.F. Vinegar Hill Reserve, 1.i.67, D.R.F., R.R.F. Vinegar Hill Reserve, beating, 6.i.67, R.R.F. Apiti, 29.xii.66, D.R.F., R.R.F. Feilding, 24.ii.43, R.R.F. Makotuku, T. K. Lomas. Wairarapa. Solway Showgrounds, Masterton, 28.viii.67, C.L.W. Gladstone, Carters Reserve, 16.ix.67, C.L.W. Wellington. Kapiti Island, v.47, R.R.F. Ngauranga Gorge,

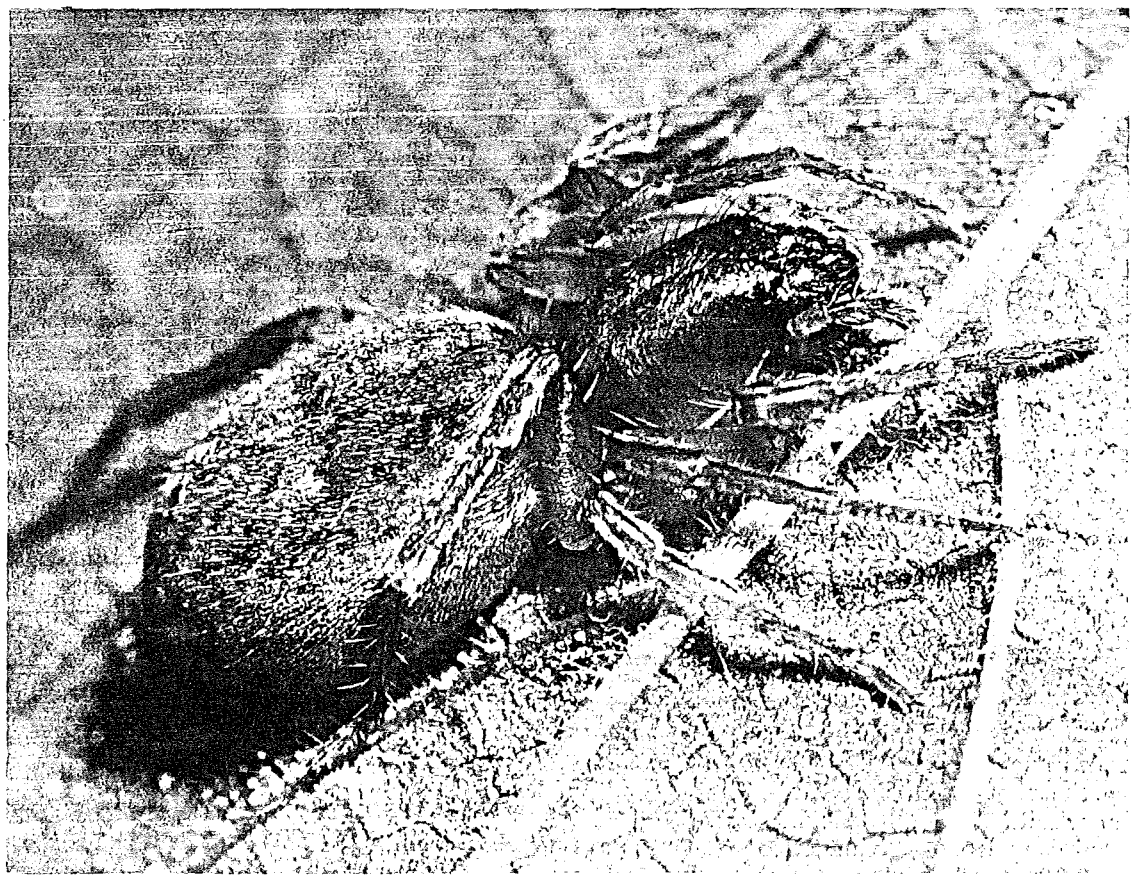
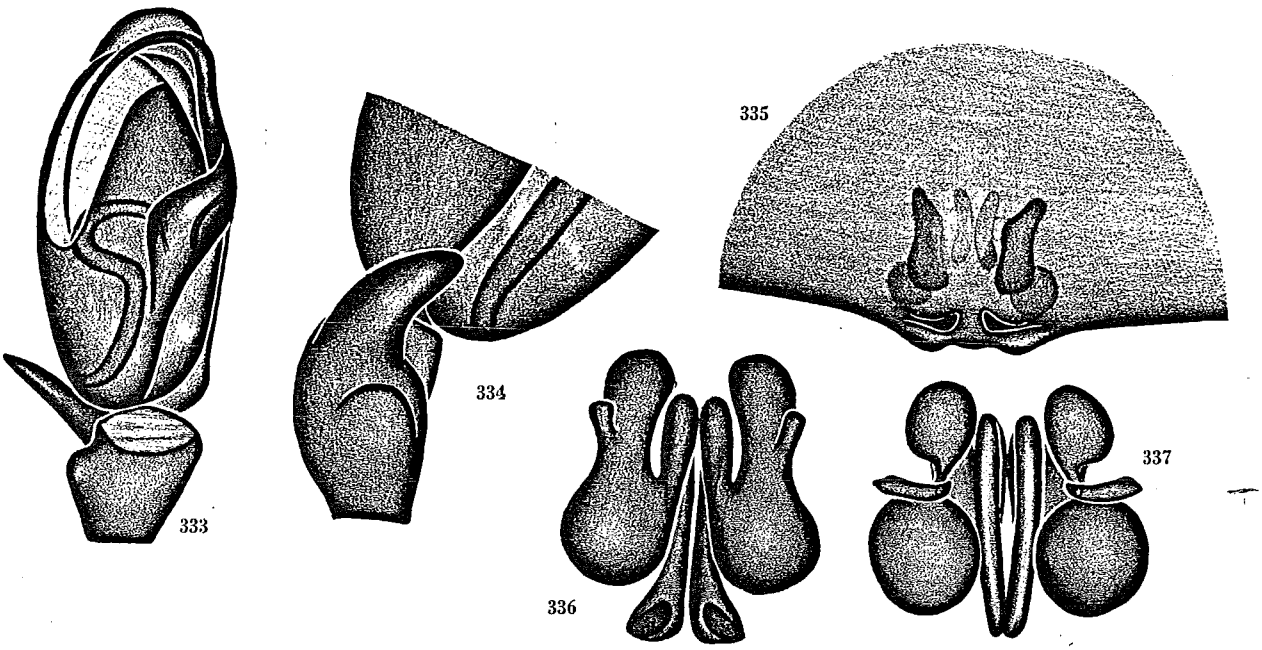


Fig. 332 *Clubiona huttoni* n. sp. Female. Tuatapere, Southland



Figs. 333-337 *Clubiona huttoni* n. sp. Fig. 333 Male palp, ventral view Fig. 334 Retrolateral surface tibia male palp Fig. 335 Epigynum Fig. 336 Internal genitalia from below Fig. 337 Internal genitalia from above

19.iv.41, F. A. Bodley. Wellington, xii.49, J. H. Sorensen. South Island. Nelson. Stephens Island, 30.xi.55, B. A. Holloway. Stephens Island, litter, 71/73, ii.71, G. W. Ramsay. Rough Island, 2.viii.67, J. C. Watt. Patarau, 13.viii.66, C.L.W. Pohara Beach, forest, 7.iii.67, C.L.W. Reservoir, Nelson, 21.viii.48, R. A. Cumber. Mawhera State Forest, x.71, 71/118, J. S. Dugdale. Fiona Hut, Fiona Valley, at night 914m, 24.xi.71, J. S. Dugdale. Marlborough. Picton, 24.iii.69, C.L.W., R.R.F. Canterbury. Arthurs Pass, Klondyke Corner, under stone, 6.vii.74, A.D.B. Kaituna Valley, 13.iv.67, C.L.W., R.R.F. Kaituna Valley, 24.v.75, R.R.F. Prices Bush, Banks Peninsula, 2.xii.34, S. Lindsay. Prices Valley, Banks Peninsula, bush MC, 29.xi.74, J. C. Watt. Okuti Valley, Banks Peninsula, 21.xi.75, 10.xii.50, R.R.F. Kowhai Bush litter, 30.vi.74, A.D.B. Akaroa, 4.xii.75, R.R.F. Peel Forest, 9.ii.46, R.R.F. Peel Forest, 30.ix.66, C.L.W., R.R.F. Opihi River, Hanging Rock, 21.v.55, B. J. Marples. Westland. Roto Hut, 10.12.56, L. R. Jackson. Greymouth, Milton Road, vii.56-i.57, L. R. Jackson. Otira Valley, in moss, 28.v.54, J. S. Dugdale. Pukekura, viii.52, M. Warren. Hokitika Beach, under logs, 4.ix.74, R.R.F. Haast Motor Camp, 19.i.71, R.R.F. Taumaka, Open Bay Islands, intertidal rock zone, 31.i.71, M. E. Miller. Taumaka, Open Bay Islands, pitfall trap, *Freycinetia banksii*, 9.ii.71, M. E. Miller. Okuru River flats, below Ngata Junction, 152m, 5.iv.72, K. Mason. Otago. Duntroon, 18.v.48, B. J. Marples. Hawksbury bush, near Waikouaiti, 20.x.66, C.L.W. Allans Beach, trap, sand dunes, 7.ix.66, R.R.F. Allans Beach, sand hills, 6.xi.65, C.L.W. Murdering Beach, 6.vi.61, W. T. Poppelwell. Whare Flat, Dunedin, nigger head, 4.i.66, C.L.W. Waipori Gorge, grass clumps, 23.i.75, A.D.B. Evansdale Glen, 21.x.73, R.R.F. Frasers Gully, Dunedin, 13.v.67, 21.v.67, 17.v.69, R.W.H., C.L.W. Botanical Gardens, Dunedin, 7.viii.75, A. C. Harris. St. Clair, Dunedin, i.65, 14.xi.65, 10.i.66, 24.x.68, R.R.F. Maori Hill, Dunedin, 20.ix.66, J. Sutherland. Dunedin, iii.58, i.60, xi.62, R.R.F. Dunedin, 28.ii.61, 7.iv.61, W. T. Poppelwell. Dunedin, 25.iii.66, T. Bruce. Dunedin, 16.x.67, J. Dineen. Sullivans Dam, Dunedin, x.65, R.R.F. Aramoana, Otago Harbour, flax, 15.v.66, C.L.W. Portobello, 1.ix.66, M. Forster. Henley, in dried cabbage tree leaves, 16.ix.72, R.R.F. Roaring Meg, 486m, Kawarau Gorge, malaise trap, 20.iii.75, J. C. Watt. Lake Poteriteri, moss and leaf mould, 9.ii.53, G. W. Ramsay. Bull Creek bush, 14.v.67, R.W.H., C.L.W. Bull Creek, 27.iii.70, C.L.W. Bull Creek, flax, 28.x.72, 8.xi.74, R.R.F. Plant Reserve, Balclutha, 21.iv.66, R.R.F. Upper Tahokopa Valley, 14.ii.71, C.L.W. Fiordland. Cascade Creek, 15.ii.66, 12.i.71, R.R.F. Cascade Creek, 15-16.ii.66, C.L.W., R.R.F. Eglinton Flat, 16.ii.66, R.R.F. Martins Bay, under logs, 1.ii.55, R.R.F., J. S. Dugdale. Hidden Falls, Hollyford Valley, under logs, 21.i.55, R.R.F. Hollyford, Gunns Camp, tree trunk, 18.v.60, Hidden Falls, Hollyford Valley, *Polystichum vestitum* litter, 6.i.67, A. K. Walker. Lower Hollyford, beaten from fern, 2.ii.46, R.R.F. 7 km west of Queenstown, 12.xi.68, D. R. Forster. Between Te Anau and Manapouri, Manuka scrub, 6.i.70, R.R.F. Spey River, Manapouri, 16.ii.59, Otago University Biological Society. Thompson Sound, sea-level, under logs, 14.i.58, R.R.F. Southland. Clinton-Wyndham Road, near Chimney, 10.iii.70, C.L.W. Bridge, Waipahi Stream, near the Cairn Station, Clinton-Wyndham Road, 12.iii.70, C.L.W. Papatotara, 11.iii.70, C.L.W. Tuatapere, 24.x.75, R.R.F. Colac

Bay area, 24.xi.70, C.L.W., R.R.F. Wakaputu, Riverton Junction, on wet sand, 22.i.75, A.D.B. Otaitai Bush, Riverton, grass, 21.i.75, A.D.B. Bluff, 10.iii.70, C.L.W. Stewart Island. Halfmoon Bay, 10.iii.48, iv.49, O. Allan. 6.ii.47, i.52, O. Allan. Horseshoe Bay, ex foliage, 4.xi.46, R.R.F. Maori Bay, 25.xi.46, R.R.F. Akers Point, on foliage, 24.xi.46, R.R.F. Thief Point, Port Adventure, 21.i.55, B. A. Holloway, R. K. Dell. Crooked Reach, Port Pegasus, 22.i.55, B. A. Holloway, R. K. Dell. Big South Cape Island, 24.i.55, B. A. Holloway, R. K. Dell. Owen Island, 29.i.55, B. A. Holloway, R. K. Dell. Port William, 8.i.56, I. Mannering. Stewart Island, 25.iv.62, W. T. Poppelwell. Oban, 29.iii.75, A. C. Harris. Oban, iii.60, G. Collett. Stewart Island, forest across swamp, 19.xi.59, J. Kikkawa, A. Chapman. Golden Bay, i.60, M. Watt. Stewart Island, ii.60, M. Watt.

This species is the commonest *Clubiona* being found in scrub and forest margins but like most of the recorded species does not extend far into forested areas. In the South Island it is often found in gardens and cultivated areas, usually associated with the low shrubs on which it hunts at night.

Clubiona producta n. sp.

Figs. 295, 338-341.

MALE

Measurements

Carapace	length 3.1	width 2.0
Abdomen	length 3.5	width 1.9

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	2.1	1.1	1.9	1.6	0.8	7.5
2	2.5	1.2	2.2	1.8	0.9	8.6
3	1.9	0.9	1.2	1.7	0.7	6.4
4	2.8	1.2	2.2	2.8	0.9	9.9
Palp	1.0	0.5	0.5		0.8	2.8

Colour Cephalothorax and legs pale yellowish brown, dorsal surface of abdomen strongly speckled (Fig. 295) with blackish rather than red spots. Ventral surface with few spots.

Eyes Two straight rows occupying 5/6 of width. Ratio of AME.ALE.PME.PLE = 7.9.7.7. AME separated by 8/7 and from ALE by 5/7 of width of an AME. Lateral eyes separated by 6/8. PME separated by 17/8 and from the PLE by 11/8. MOQ longer than wide in ratio of 12:11.

Chelicerae Retromargin two teeth, promargin with four.

Legs Spines: Legs 1,2, femur d.1.1.1. p.1 subdistal, tibia v.2.2. Leg 3 femur d.1.1.3., tibia v.p.r.1.1, metatarsus d.0.1.2. v.2.0.2. p.1.1.1. r.1.0.1. Leg 4 femur 1.1.3, tibia v.2.1.1. p,r.1.1.1, metatarsus d.0.1.2. p.r.1.1.1. v.2.1.2.

Palp The tibial process is not as curved as in *huttoni* and the embolus is longer and more slender (Figs. 338,339).

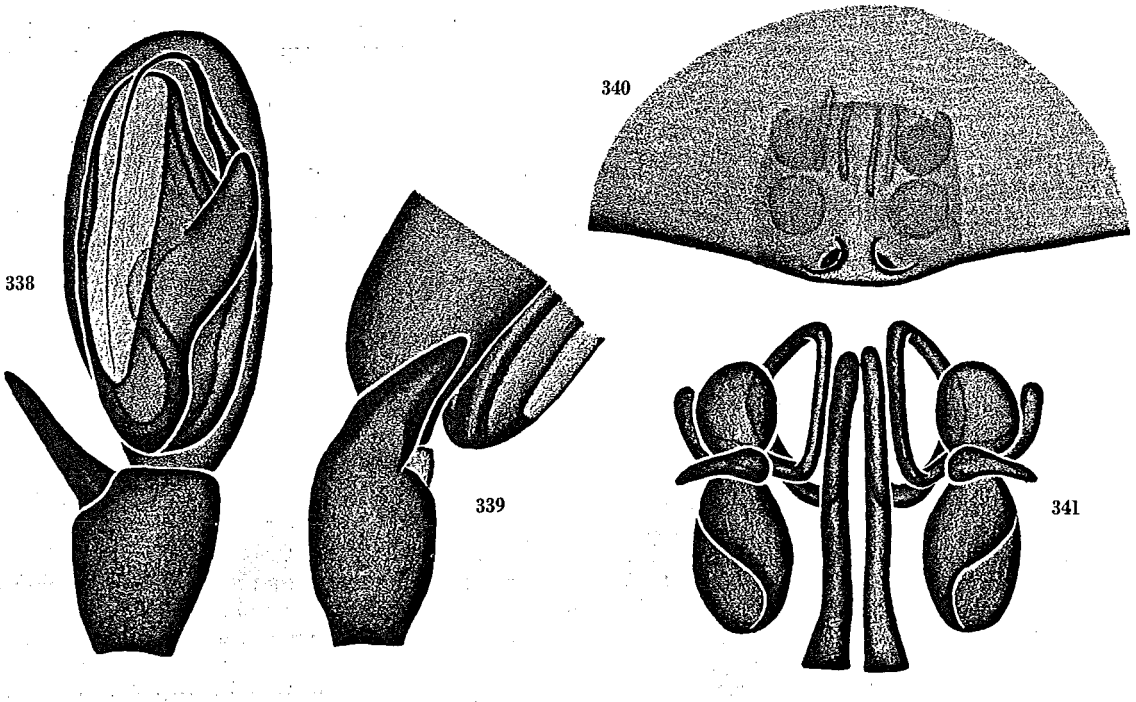
FEMALE

Measurements

Carapace	length 3.2	width 2.0
Abdomen	length 3.7	width 2.0

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	1.9	1.1	1.6	1.4	0.8	6.8
2	2.0	1.1	1.6	1.4	0.8	6.9
3	1.8	0.9	1.3	1.6	0.6	6.2
4	2.3	1.1	1.9	2.7	0.8	8.8
Palp	0.9	0.4	0.5		0.6	2.4

Similar to the male. The two receptacula of the interal genitalia are not as broadly joined as in *huttoni* and the typical dark patch characteristic of the epigynum of that species is not present. The ducts leading to the receptacula are longer in correlation with the longer embolus (Fig. 340,341).



Figs. 338-341 *Clubiona producta* n. sp. Fig. 338 Male palp, ventral view. Fig. 339 Retrolateral surface tibia male palp Fig. 340 Epigynum Fig 341 Internal genitalia from above

Types Holotype male, allotype female. Three Kings Islands. Castaway Camp, November, 1970, G. W. Ramsay (Ent.Div.DSIR).

Records Three Kings Islands, beaten at night, xi.1970, J.C. Watt. Summit 200m, litter, 70/207, 23.xi.70, G.Kuschel. Great Island, beaten at night, xi.70, G.W. Ramsay, J.C. Watt. Castaway Camp, xi.70, G.W. Ramsay. Tasman Valley, beaten at night, xi.70, J.C. Watt. Tasman Valley, xi.70, G. W. Ramsay, Great Island, moss 70/205, 23.xi.70, G.Kuschel. Great Island, 1-3.i.63, E.S.Gourlay.

This species is closely related to *huttoni* but easily separated by differences in the genitalia as well as the darker abdominal spots. The fact that there should be a distinct species on the Three Kings Islands is interesting in view of the wide distribution of *huttoni* over the rest of New Zealand.

Clubiona convoluta n.sp.

Figs. 294, 342-347.

FEMALE

Measurements

Carapace	length 3.2	width 2.5
Abdomen	length 4.7	width 3.9

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	2.1	1.2	1.8	1.4	0.7	7.2
2	2.0	1.3	2.0	1.5	0.8	7.6
3	1.8	0.8	1.3	1.5	0.6	6.0
4	2.4	1.2	2.0	3.2	0.8	9.6
Palp	0.9	0.4	0.5		0.8	2.6

Colour Cephalothorax and appendages reddish brown. Abdomen with dorsal spots (Figs. 294, 342) but only few on ventral surface.

Eyes Two straight rows occupying 5/6 of width. Ratio of AME.ALE.PME.PLE = 9.9.7.8. AME separated by 7/9 and from the ALE by 10/3 of width of an AME. laterals separated by 8/9. PME separated by 22/9 and from the PLE by 17/9. MOQ wider in front than behind in ratio 36:25; longer than wide in front in ratio 27:25.

Chelicerae Two teeth on each margin.

Legs Spines: Leg 1 femur d.1.1.1. p.1. subdistal, tibia v.2.2. Leg 2 femur d.1.1.1. p.1. subdistal, tibia v.2 distal.

Genitalia The ducts leading to the receptacula (Figs. 346, 347) are more extensive than in other species and the outer loop of the duct shows through as a pair of sinuous bands in surface view (Fig. 345).

FEMALE

Measurements

Carapace	length 3.0	width 2.2
Abdomen	length 3.8	width 2.0

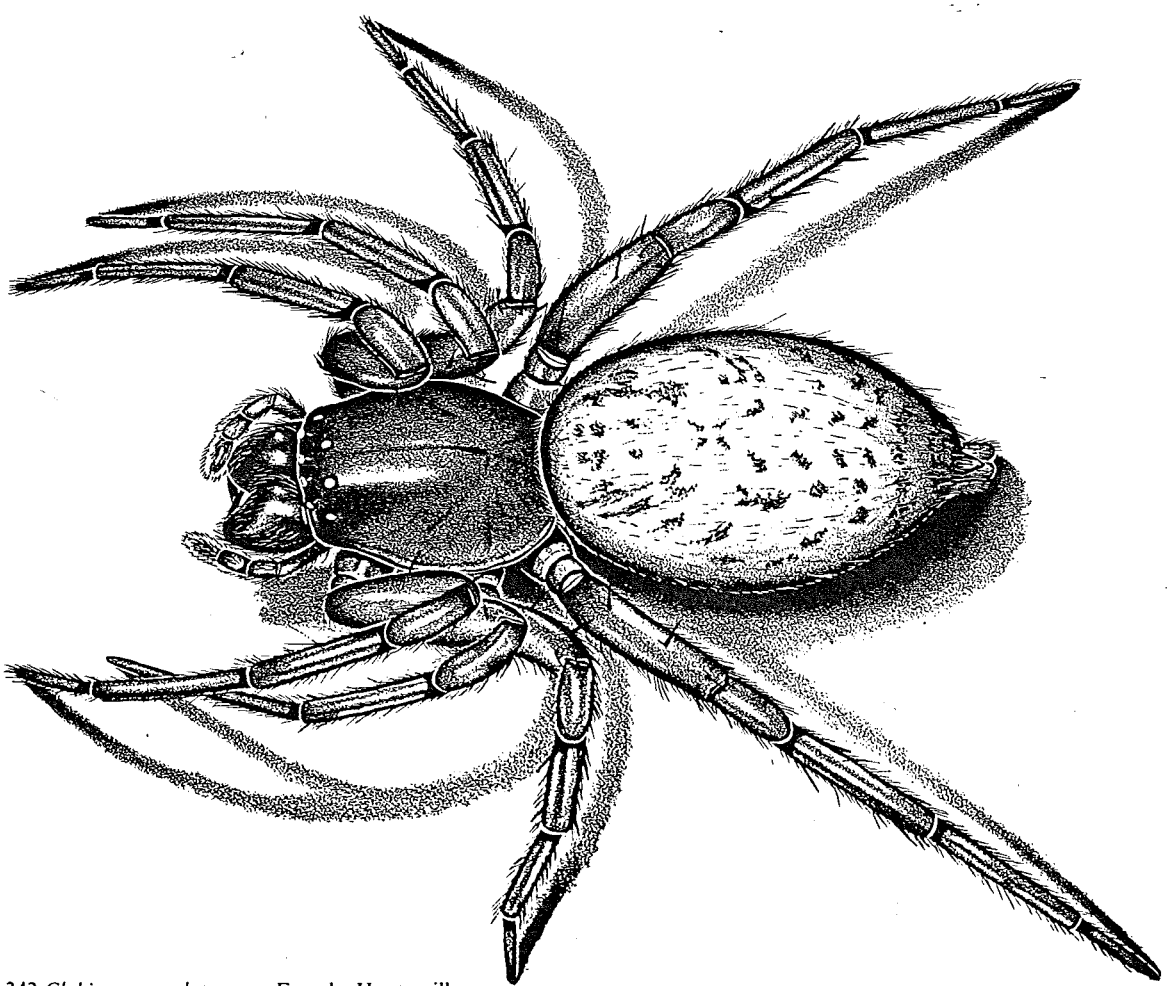
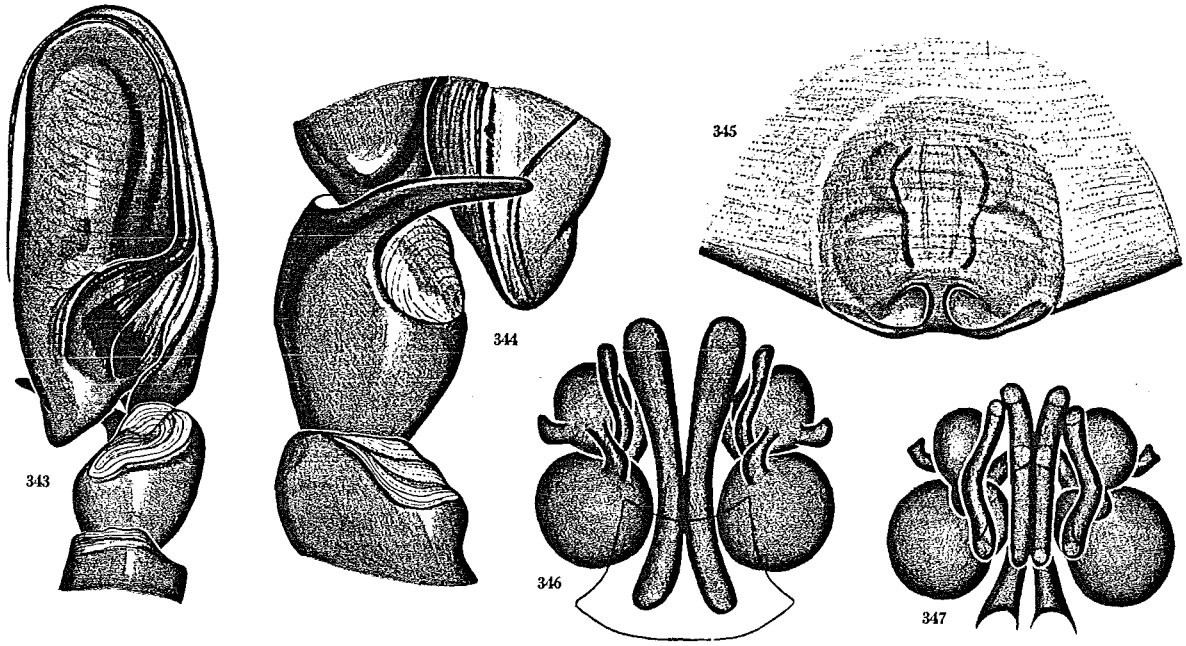


Fig. 342 *Clubiona convoluta* n. sp. Female. Hunterville



Figs. 343-347 *Clubiona convoluta* n. sp. Fig. 343 Male palp, ventral view Fig. 344 Prolateral view tibia male palp Fig. 345 Epigynum Fig. 346 Internal genitalia from above Fig. 347 Internal genitalia from below

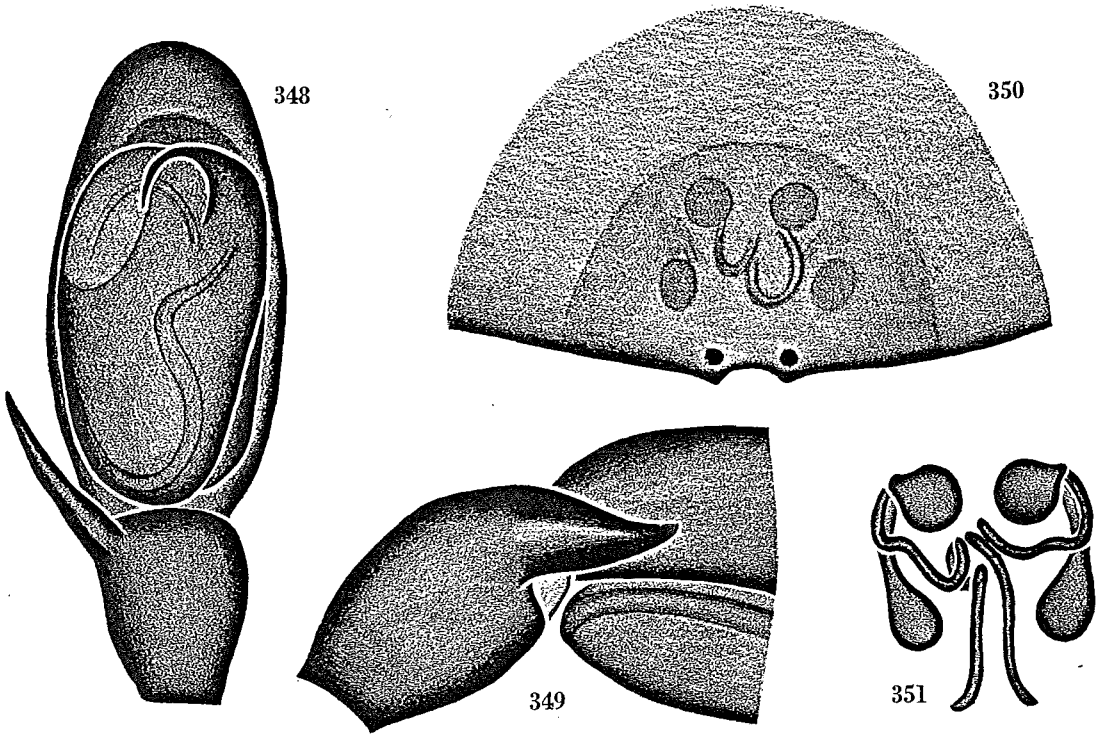
Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	1.9	1.1	1.9	1.4	0.7	7.0
2	2.2	1.2	2.0	1.5	0.7	7.6
3	1.6	0.9	1.1	1.5	0.6	5.7
4	2.1	1.1	2.0	2.5	0.7	8.4
Palp	0.6	0.4	0.3		1.1	2.4

The bulb of the palp is large, extending from the distal margin of the cymbium back down to overhang the tibia. The embolus originates basally, curving around the distal portion of the bulb to well over one half of the retromargin. The tibial process is long and slender, directed ventrally (Figs. 343, 344).

Types Holotype female, allotype male. Otago. Leith Saddle, pitfall trap, 1 February, 1970. R. R. Forster (Otago Museum).

Records North Island. Near Tirau, ex tree fern trunk, broadleaf forest, 21.vii.65, M.L. Bushey Park, Wanganui, 19.iii.69, R.R.F. Owhango, 26.ii.67, C.L.W. Taranaki, Mt. Egmont, 23.iii.69, C.L.W., R.R.F. Bruce Park, near Hunterville, 1.i.67, D.R.F., R.R.F. Pohangina Valley, Totara Reserve, 26.xii.66, D.R.F., R.R.F. Feilding, 6.x.42, R.R.F. Manawatu Gorge, north end, leaf mould, 15.xii.46, R.R.F. Northeast Palmerston, 29.iii.60, C. W. O'Brien. Foot of Mt. Holdsworth, Tararua Mountains, 6.iv.68, C.L.W. Fields Hut, Tararua Ranges, mountain Cabbage tree leaves, 1,xii.52, B. A. Holloway. Solway Showgrounds, Masterton, 19.ix.67, C.L.W. Kourarau, Wairarapa, 12.ix.67, C.L.W. Stokes Valley, 10.i.48, R.R.F. Lower Hutt, 18.iv.59, M. M. Boyack. Wellington. R. W. H. Makatuku, T. K. Lomas. South Island. Nelson. Ruby Bay, 12.iii.67, C.L.W. Waitapu, 3.ix.66,R.W.H. Waitapu Bush, 27.v.67, R.W.H., R.R.H. Canterbury. Arthurs Pass, 820m, 25.iv.53, J. S. Dugdale. Arthurs Pass, Temple Basin, stones, 1216m, 24.xi.74, Arthurs Pass, Rough Creek, 20.viii.74, Lake Rubicon, 19.xi.50, C.L.W., R.R.F. Lake Taylor, 14.iv.52, R.R.F. Hoods Bush, Malvern Hills, 3.v.53, R.R.F. Hilltop, i.25, A. L. Tonnoir. Waimakariri Track, under stones. Kaituna Valley, 12.iv.67, 13.iv.67, C.L.W., R.R.F. Kaituna Valley, 11.xi.49, 24.v.75, R.R.F. Prices Valley, Banks Peninsula, 18.viii.55, R.R.F. Prices Valley, 14.iv.67, C.L.W., R.R.F. Ribbonwood Creek, Cass, 21.v.54, J. S. Dugdale. Chalk Hill, 4.xi.51, R.R.F. Between Castle Rock and Cass, 12.xii.61, B. J. Marples. Peel Forest, swept in bush, 20.v.55, B. J. Marples. Peel Forest, 9.iii.60, C. W. O'Brien. Kelseys Bush, Waimate, 20.i.66, J. T. Townsend. Kelseys Bush, Waimate, 9.i.74, A. C. Harris. Landsdown, 17.viii.65. Westland. Waiho, Franz Josef, xii.60, R. R. Kettle., J. I. Townsend. Otago. Dunedin 1920. Opoho Bush, Dunedin i.46, R.R.F. Dunedin, 6.vi.58, 10.x.58, R.R.F. Dunedin, 10.x.61, W. Poppelwell. Botanical Gardens, Dunedin, 21.ix.59, J. Kikkawa. Waipori, under bark, 8.vii.73, R.R.F. Bull Creek, bush, 14.v.67, R.W.H., C.L.W. Bull Creek, 27.iii.70, C.L.W. Balclutha. Plant Reserve, 4.iv.66, R.R.F. Fiordland. Eglinton Valley, beating, 14.iv.71, R.R.F. Southland. Tuatapere, 19.v.62, B. J. Marples. Clinton-Wyndham Road, near Chimney, 10.iii.70, C. L. W. Forest Hill, 26.i.57, R.R.F. Croydon Bush, Gore, 17.ii.66, C.L.W., R.R.F. Oreti to Fortrose, Coastal Southland, i.63, W. Poppelwell. Riverton, Longwood Forest, Ward Road, grass, 21.i.75, A.D.B. Stewart Island. Oban, 29.iii.75, A. C. Harris.

Superficially this species may be confused with *huttoni*. The two species are often found together although *convoluta* appears to be restricted more to



Figs. 348-351 *Clubiona delicata* n. sp. Fig. 348 Male palp, ventral view Fig. 349 Retrolateral view tibia male palp Fig. 350 Epigynum Fig. 351 Internal genitalia from above

forest margins and bush relicts. When the two species are present *convoluta* is easily recognised by the paler abdomen.

Clubiona delicata n. sp.

Figs. 293, 348-351.

MALE

Measurements

Carapace	length 1.8	width 1.3
Abdomen	length 2.0	width 1.0

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	1.0	0.5	1.0	0.7	0.4	3.6
2	1.1	0.6	1.1	0.9	1.5	4.2
3	1.0	0.5	0.8	0.9	0.3	3.4
4	1.2	0.6	1.0	1.3	0.4	4.5
Palp	0.5	0.2	0.2		0.3	1.1

Colour Carapace pale brown, legs paler. Abdomen strongly spotted on the dorsal surface (Fig. 293) and weakly spotted ventrally.

Eyes Anterior row straight, posterior slightly procurved, occupying 9/11 of the width. All eyes equal in width. AME separated by 5/5 and from the ALE by 4/5 of the diameter of an AME. Lateral eyes separated by diameter of an AME. PME separated by 15/5 and from the PLE by 9/5.

Chelicerae Two teeth on each margin.

Legs Spines: Leg 1,2 femur d.1.1.1.p.1 subdistal, tibia v.1 subdistal.

Palp Tibial process sharply pointed and directed anteriorly (Fig. 349) Embolus distal, very short and slender (Fig. 348).

FEMALE

Measurements

Carapace	length 1.5	width 1.1
Abdomen	length 2.2	width 1.4

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	0.8	0.4	0.6	0.5	0.4	2.7
Palp	0.4	0.2	0.3		0.3	1.1

Epigynum (Fig. 350) simplified with two well separated openings but only lightly sclerotised. The internal genitalia are also simple with the paired receptacula narrowly joined and the slender and irregularly convoluted (Fig. 351).

Types Holotype male, allotype female, female paratype. Hawkes Bay, Waitetola, 11 May, 1963, R. W. Hutton (Otago Museum). Known only from the small series from the type locality this very small species seems to have been derived by simplification from *huttoni* stock.

Records North Island. Hawkes Bay, Waitetola, 10.v.66, 17.v.66, R.W.H.

Chiracanthium Koch C.L. 1839.

Only a single species of this cosmopolitan genus occurs in New Zealand. While bearing some resemblance to *Clubiona* it may be separated from it by a number of characters.

Carapace without a fovea. Eyes in two straight rows more or less equal in width. Legs longer and more slender than in Clubiona. Femora of legs 1,2 without dorsal spines and tibiae

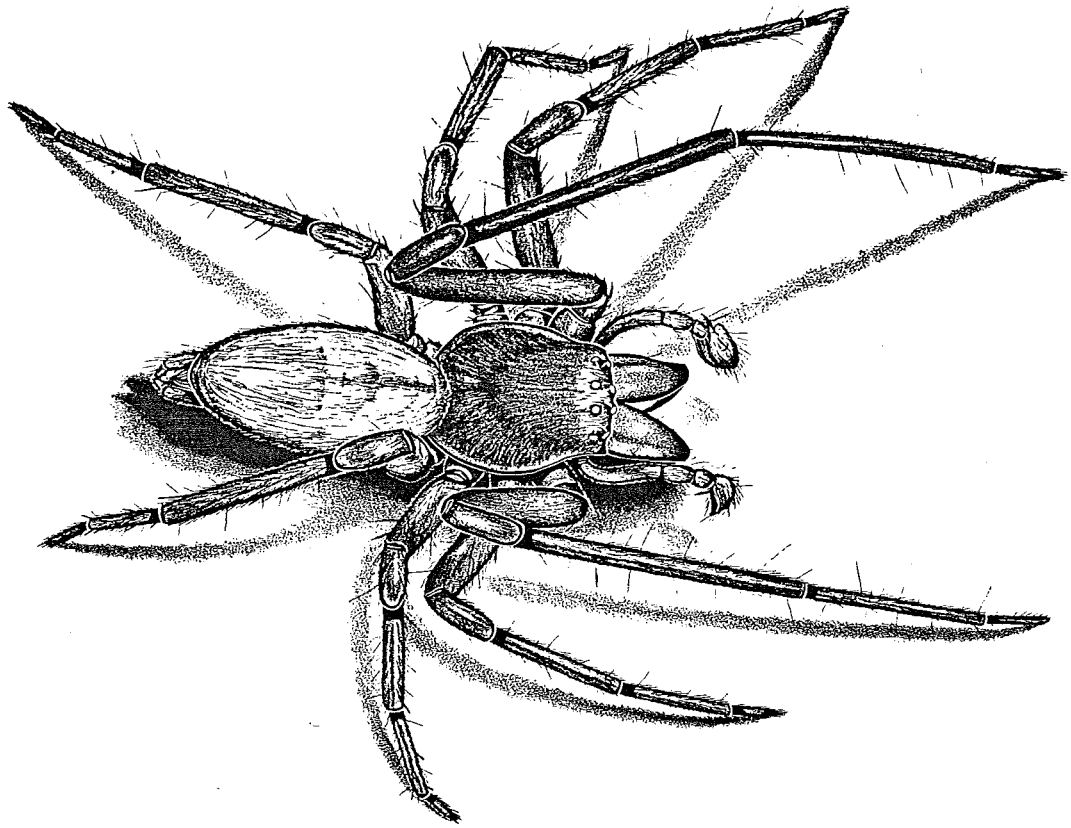


Fig. 352 *Chiracanthium stratioticum* Koch Male

without ventral spines. Male palp with a long, slender embolus which originates distally, circles the bulb and terminates within a large translucent conductor. Medican apophysis absent. Posterior margin of cymbium with a long posteriorly directed spine abutting on a forwardly directed tibial spine (Fig. 354). Female epigynum with the appearance of Fig. 355. Internal genitalia with ducts coiled around the fused receptacula (Fig. 356).

Chiracanthium stratioticum Koch L. 1873

Chiracanthium stratioticum Koch L. 1873 Die Arachn. Austr. pp. 396, 408. Urquhart 1892. Trans.N.Zeal. Inst. 24:222 Simon 1897. Hist.nat.Araign. 2(1):78 Dalmas 1917 Ann.Soc.ent.Fr. 86:393. Myers 1921. Trans.N.Zeal.Inst. 53:252. Forster & Forster 1975. N.Z. Spiders Collins, Auckland. p.115.

Figs. 23, 352-356.

FEMALE

Measurements

Carapace	length 3.6		width 2.7
Abdomen	length 5.0		width 2.8

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	4.2	1.5	3.8	4.0	1.2	14.7
2	3.2	1.3	2.8	2.9	0.9	11.1
3	2.2	1.1	1.7	2.0	0.7	7.7
4	3.2	1.1	2.5	3.0	1.0	10.8
Palp	1.5	0:6	0.9		1.4	4.4

Colour Carapace and appendages orange brown. In life the abdomen usually has a reddish tinge or it may appear yellow. The median band is distinct.

Carapace Squat with the head region short and not markedly differentiated. Fovea absent.

Eyes Two straight rows placed close to the anterior margin of the carapace. Ratio of AME.ALE.PME.PLE = 12.10.8.8. AME separated by 11/12 and from the ALE by 16/12 of the width of an AME. Laterals separated by 8/12. PME separated by 22/12 and from the PLE by 27/12. MOQ wider behind than in front in ratio of 38:35 and wider in front than long in ratio of 35:28.

Maxillae Rectangular and parallel. Longer than wide in ratio of 27:16.

Labium Notched at base. Outer margins convergent, anterior margin slightly indented. Longer than wide in ratio of 16:15.

Sternum Scutiform, pointed behind. Longer than wide in ratio of 9:8.

Chelicerae Relatively long with two teeth on each margin.

Legs Scopula on tarsi and metatarsi. Spines: leg 1 metatarsus v.2 basal 1 distal. Leg 2 metatarsus v.1 basal. Leg 3 femur d.2 distal, metatarsus v.1.1.0. p,r.0.1.2. Leg 4 metatarsus v.2.1.1. p.0.0.2. r.0.1.2.

Abdomen Anterior spinnerets conical, contiguous. Posterior spinnerets longer than with slender distal segment. Epigynum as in Fig. 355. Internal genitalia with two loops around the receptacula (Fig. 356).

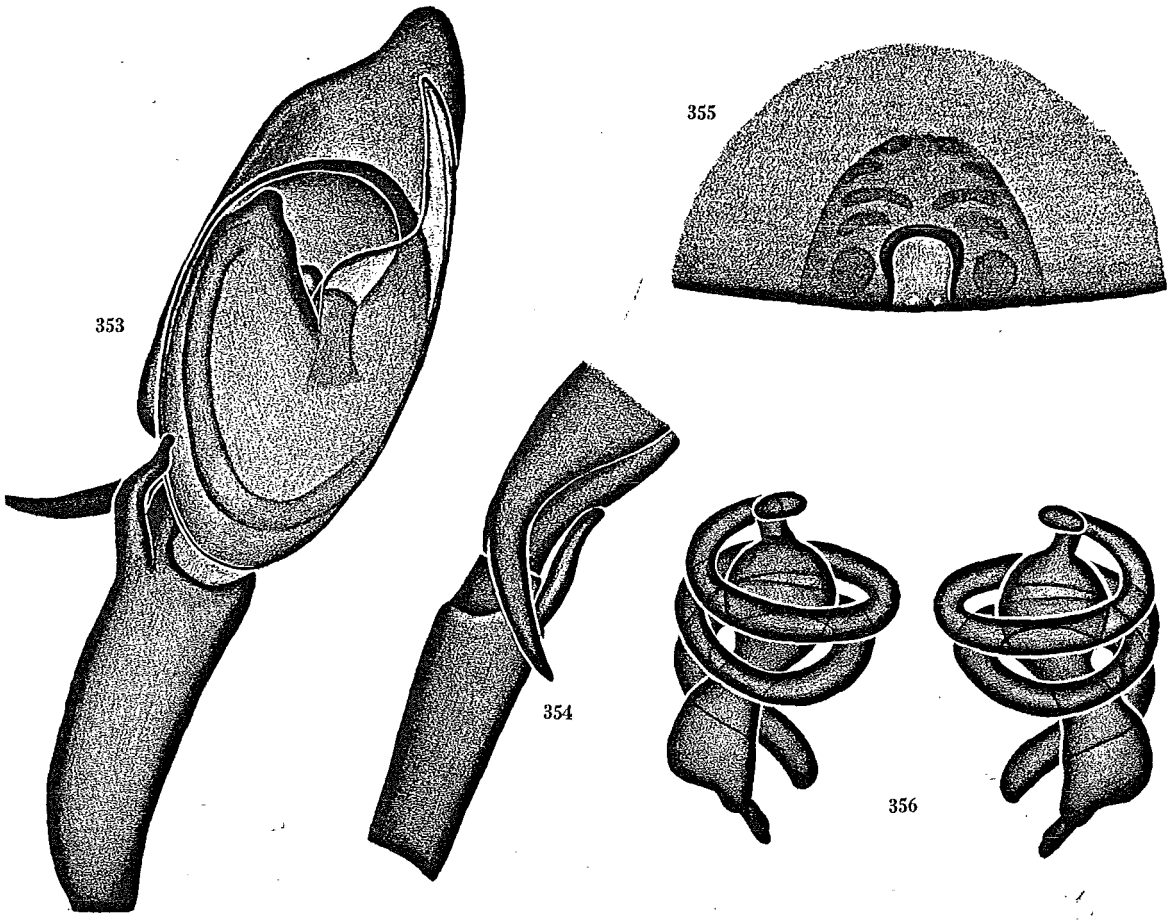
MALE

Measurements

Carapace	length 2.4		width 1.8
Abdomen	length 3.2		width 1.7

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	3.6	1.2	3.6	3.4	1.2	13.0
2	2.6	0.9	2.4	2.6	0.9	9.4
3	1.9	0.8	1.5	1.7	0.7	6.6
4	2.5	1.0	2.3	2.6	0.9	9.3
Palp	1.4	0.4	0.5		1.1	3.4

Palp as in Figs. 353, 354.



Figs. 353-356 *Chiracanthium stratioticum* Fig. 353 Male palp, ventral view Fig. 354 Prolateral view of tibia and base of cymbium of male palp Fig. 355 Epigynum Fig. 356 Internal genitalia from above

Types The male type was collected in Canterbury (O. P. Cambridge collection) while the female specimens came from Waikato and Auckland.

Records North Island. Northland. Ninety Mile Beach, near Te Paki Station, beaten from dune vegetation, 2.xii.68, B. A. Holloway. Mimiwhangata, 364m, beating manuka, J. Darby. Doubtless Bay, in sandhills, 26.viii.53, B. J. Marples. Thoms Lodge, 17.i.67,R.R.F. Auckland. Beechlands, 3.vi.49, J. W. Campbell. Henderson, 3.iii.46, N. Cameron. Raglan, ex Eucalyptus ficifolia young trees, 15.ii.51, F. C. Wilkin. Cambridge, near lake, 11.ii.52, B. J. Marples. Rotorua, 25.iv.52, B. J. Marples. Rotorua, 27.iv.53, R.R.F. Moanatuatua, Peat Reserve, Ohaupo, Hamilton, 13.iii.69, R. Rosenberg. Waihapokapoka, 2.x.69,C.L.W. Puketapu Hill, 12.iii.66, 16.iii.66, R. W. Hutton. Taranaki, Mt. Egmont 1100m, 1921100,33, H. Bellringer. Hawkes Bay. Waitetolo, 12.v.66, R. W. Hutton. Taradale, 6.vii.62, 23.ii.63, R. W. Hutton. Wellington. Foxton, 17.i.67, D.R.F.,R.R.F. Foxton, in grass, 15.1.67,R.R.F. Mangareia, 10.xii.58, R. W. Hutton. Mimatangi, 22.v.69, P. Dale. Kapiti Island, 7.i.28, N. Wilkinson. Karori, beaten from niggerhead, 26.ii.42, A. Pope. Waitere, foliage, 16.iv.60, R. G. Ordish. Amamoho, ex nest with young on manuka, 20.v.22, J. G. Myers. Wellington, 9.i.38, J. Sorensen. Wellington, ii.62, F. W. Price, South Island. Nelson. Golden Bay, i.75. Cable Bay, rushes, 29.iii.66, C.L.W. Ruby Bay, 12.iii.67,C.L.W. Westland. Mohikinui River, 20.v.56, L. R. Jackson. Canterbury. Hermitage, 760m 4.ii.61, J. S. Sedlacek. Lower Waipara, 14.xii.55, r.r.f. woodend, 25.x.48, W. F. Dukes. Victoria Park, Christchurch, 29.x.59, R. E. Leech. Burnham, 1.i.41, A. W. Parrott. Bottle Lake, 26.x.27, J. W. Campbell. Otago. Doctors Point, 3.x.68,R.R.F.,C.L.W. Opoho Bush, Dunedin, xii.44, T. M. Smith. Allans Beach, on bracken, 14.i.55, B. J. Marples.

The range of the single species found in New Zealand extends over most of the country. These spiders are typically found in grass clumps in modified country and do not occur in forest.

Supunna Simon 1897

Supunna Simon 1897. Hist.Nat.Araign. 2(1):173

Supunna is a well known Australian genus represented there by a number of species. The species occurring in New Zealand has been determined as *Supunna picta* but the name may be

changed when the group is revised in Australia. The species was first collected in the Auckland area in the early 1940s. Over the last decade it has spread over most of the North Island and down the east coast of the South Island to Christchurch where it is now well established.

The species described below is immediately recognisable by the conspicuous black and white colour pattern but this characteristic is not necessarily of generic importance.

Eyes in compact group with anterior row gently recurved and posterior row strongly procurved. Laterals subcontiguous. Chelicerae with two teeth on each margin. Tibiae and metatarsi of legs 1,2 with a double row of spines on ventral surface. Legs with plumose hairs. Bulb of male palp elongate with distal embolus but no conductor or median apophysis (Fig. 358).

Type species *Supunna insularis* (Koch L. 1873) Australia.

Supunna picta (Koch L. 1873)

Agraeca picta Koch L. 1873. Die Arachn. Austr.p.438. *Supunna picta*, Rainbow 1911 Rec.Austr.Mus. 9:253. Forster & Forster 1970. Small Land Animals of New Zealand, Dunedin.

Figs. 24, 152, 357-361.

FEMALE

Measurements

Carapace	length 3.8	width 2.8	
Abdomen	length 5.5	width 3.7	

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	2.6	1.1	2.3	2.0	1.4	9.4
2	2.5	1.1	1.9	2.1	1.3	8.9
3	2.5	1.2	1.9	2.3	1.2	9.1
4	3.4	1.4	2.9	3.9	1.5	13.1
Palp	1.0	0.6	0.8		1.4	3.8

Colour As in Fig. 357. The general colouration is black and white with the pattern reflecting the colour of the hairs. In life the reddish colouration of the first two pairs of legs from the middle of the femora to the tarsi is distinctive.

Carapace Relatively low with the head region distinct. The ratio of width of head to thorax is 25:38.

Eyes Two rows in a compact group occupying one half of the width of the head. Clypeus equal to the diameter of an AME. Anterior row gently recurved; posterior row more strongly procurved. Ratio of AME.ALE.PME.PLE = 6.6.7.10. AME separated by 4/6 of the diameter of an AME and subcontiguous with ALE. Laterals closely spaced. PME separated by a diameter and from the PLE by 5/6. MOQ wider behind than long in ratio of 20:16 and longer than wide in front in ratio of 23:16.

Sternum Anterior margin straight; lateral margins evenly curved and broadly pointed behind. Longer than wide in ratio of 4:3.

Maxillae Rectangular in outline. Longer than wide in ratio of 17:11.

Labium Wider than long in ratio of 13:9. Weakly notched at the base.

Chelicerae Lateral boss prominent. Two strong teeth on each margin.

Legs The white patches consist of patches of pale plumose hairs (Fig. 152). Weak scopula on the tarsi and distal half of metatarsi. Spines: Leg 1 femur d.1.3.2. p.1. subdistal, tibia v.2.2.0, metatarsus v.2.2.0. Leg 2 femur d.1.3.2, tibia v.1.2.0 metatarsus v.2.2.0. Leg 3 femur d.1.2.2. p.0.1.1, tibia v.2. v.2.2.1. p,r.1.1.0. d.0.1.0, metatarsus v.2.2.2. p,r.1.1.1. Leg 4 femur d.1.2.2. p.0.1.1, tibia v.2.2.2. p,r.1.1.0. d.0.1.0, metatarsus v.2.2.2. p,r.1.1.1.

Abdomen There is a triangular sclerotised patch on the antero-dorsal surface. Anterior pair of spinnerets conical and contiguous. Epigynum and internal genitalia as in Figs. 361, 362.

MALE

Measurements

Carapace	length 3.6	width 2.6
Abdomen	length 3.6	width 2.0

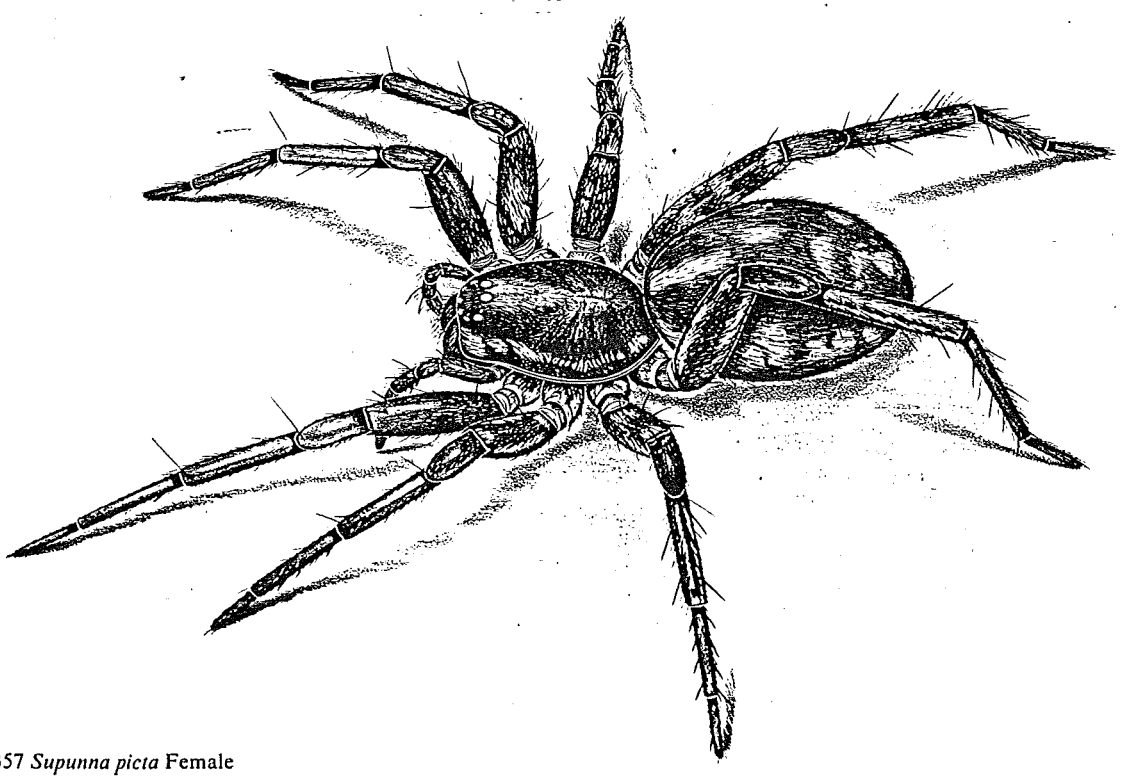
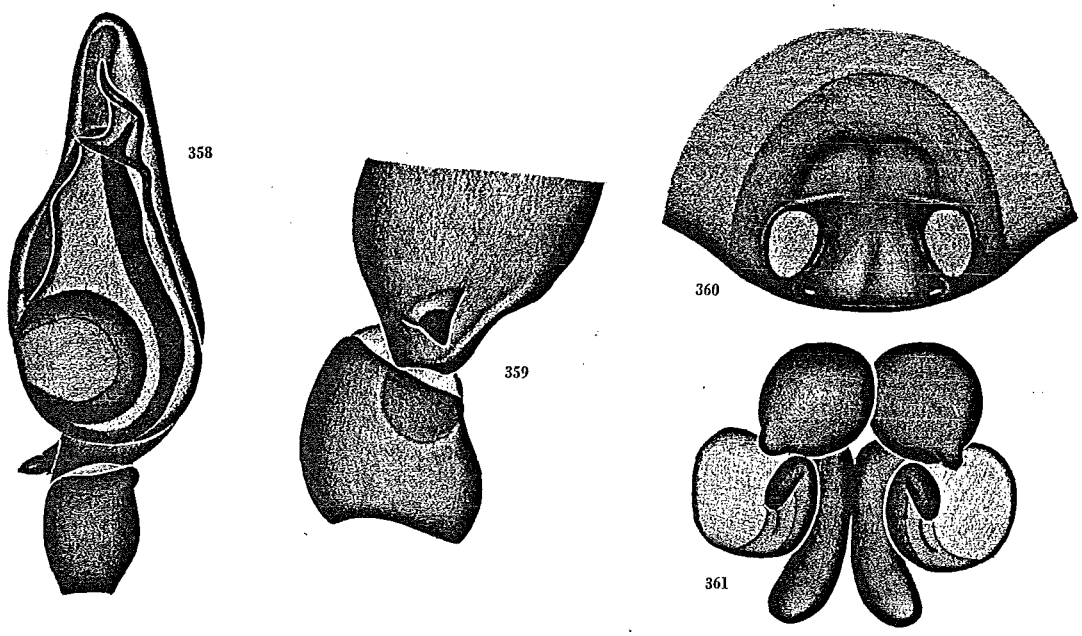


Fig. 357 *Supunna picta* Female



Figs. 358-361 *Supunna picta* Fig. 358 Male palp, ventral view Fig. 359 Prolateral surace of tibia and base of cymbium of male palp showing cymbila thorn and excavated portion of the tibia Fig. 360 Epigynum Fig. 361 Internal genitalia from above

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	2.6	1.1	2.2	2.4	1.3	9.6
2	2.6	1.1	1.9	2.3	1.4	9.3
3	2.5	1.2	1.8	2.5	1.2	9.2
4	3.4	1.3	2.8	3.9	1.6	13.0
Palp	0.9	0.4	0.4		1.5	3.6

Similar in appearance to the female. The palp is shown in Figs. 358, 359. The tibia lacks a process but there is an excavated distal region associated with a stout spinous process on the basal retromargin of the cymbium. Bulb simplified with a short distal embolus. There is no conductor, the function being taken over by the tip of cymbium.

Records North Island. Auckland. Auckland, 6.xi.41, D. Spiller. Cuvier Island, v.43, R.R.F. Mount Maunganui, in house, 2.v.73, H. S. Taylor, Whale Island, 27.viii.70, Auckland University Field Club. Ohope Beach, 27.iv.66, J.H. Te Kaha, on rocks, 2.x.69, C.L.W. Hawkes Bay. Port Ahuriri, 14.i.66, R.W.H. South Island. Marlborough. Parikawa, Woodbank Stream, 16-25.iii.69, R.R.F., C.L.W. Mount Fyffe, *Velascum*, 30.vi.74, A.D.B. Canterbury. Christchurch, iii.70. Christchurch, on ground, 9.vi.74, T. Trought. New Brighton, 15.iii.73, R. Hamilton. Rangiora, 15.v.75, W. J. F. Hamilton. Lincoln, in house, 18.vii.74, K. G. Somerfield.

There is no doubt that this spider is a comparatively recent immigrant from Australia. The earliest record is by Dr. D. Spiller who found a female in Auckland in 1941 and a male which I collected on Cuvier Island in 1943. The species has apparently been established in the Auckland area for a considerable time but the South Island records are all recent. The spider has only become common in Christchurch over the last three years. It will be interesting to see how far south it will spread.

In Australia this spider and its relatives are common in sclerophyl forest and open country. Most of the records from this country have been in gardens and around houses but some have been seen in open country where the grass cover is short.

LINYPHIIDAE-MYNOGLENINAE

by A. D. Blest*

The Linyphiidae comprise a very large family of spiders which is quite well understood in the northern hemisphere, but whose antipodean representatives have scarcely been examined. They present few useful taxonomic characters other than the genitalia either for diagnosis or for generic delimitation, and the internal classification of the family has for long been a matter of controversy. Northern Hemisphere forms were split into two families by Bertkau (1872): Linyphiidae and Micryphantidae. Gerhardt (1923) recognised the same division, calling the latter family Erigonidae, and Locket and Millidge (1953) have argued in favour of this procedure while considering that the taxa are, in fact, a continuum whose two major groupings deserve no more than subfamily status. The two subfamilies then become the Linyphiinae and Erigoninae, and this usage will be followed here.

Blest (1976) extended the observations of earlier workers on the tracheal anatomy of the Linyphiidae by surveying 121 species. It was confirmed that erigonine species have two stout tracheal trunks which arise from a common spiracular atrium and branch within the abdomen into two tight bundles of tracheoles which pass through the pedicel and invade the prosoma, where they disperse without

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